

V A D E M E C U M:
OR, A
COMPANION
FOR A
C H I R U R G I O N.

F I T T E D

For *Sea*, or *Land*; *Peace*, or *War*.

Shewing

The Use of his Instruments, and Virtues of Medicines Simple and Compound most in-use, and how to make them up after the best Method.

With the manner of making Reports to a Magistrate, or Coroner's Inquest. A Treatise of Bleeding at the Nose, and directions for Bleeding, Purging, Vomiting, &c.

By *Thomas Brugis*, Doctor in Physick.

Being amended, and augmented with an Institution of Physick, and seven New Treatises, viz. of Tumors, Wounds, Ulcers, Fractures, Dislocations, Lues Venerea, Anatomy.

Whereto

Is also added, (by way of Supplement,) another New Discourse called *Chirurgus Methodicus*, or, The Young Chirurgion's Conductor through the Labyrinth of the most difficult Cures occurring in his whole Art, and whereby he is distinguished from Empyricks and Quacksalvers.

By *ELLIS PRAT. M. D.*

The Seventh Edition.

London, Printed for B. T. and T. S. and Sold by Fr. Hubbert, next the Crown Tavern in Duck-lane. 1689.



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T O

His Ever Honoured Friend,

Sir *WILLIAM FUXON*,

O F

Little-Compton in the Coun-
ty of Gloucester, Kt. and Bar.

SIR,

I Have here presum'd to present
this Medico-Chirurgic Tract
to You: 'Tis but mean, Sir; yet
when You shall see 'tis intended
for Beginners, I'm metaphysically
assur'd of Your favourable accep-
tance, it being an abstract of the
Doctrine of Hippocrates and Ga-
len, and the best Writers to our
A 3 time.

Epistle Dedicatory.

time; so I must apologize for my self in the words of the great Seneca to his Lucilius, De alienis liberalis fui; quare autem aliena dixi? quæcunque benè dicta sunt ab ullo, mea sunt; and ever remain,

Honoured Sir,

Your very humble Servant,

E. PRAT.

To

my
Se-
enis
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and

To the Young ARTIST

By way of Institution.

THat thou may'st be the better enabled to comprehend what's in the Body of this Book, which is wholly practical, I desire thee first to read this theoretical System.

First then know, thou intendest to employ thy self in part of an Art, whose *Author*, *Necessity* and *Subject*, enough commend it; *i. e. Medicine*, so call'd, *à medendo*; its Author is that of every good Gift, GOD; whom *Moses* and *Syrach* tell us, made Plants and Medicines out of the earth, and the Physician to be honor'd. Experience brought it first in use, to which daily Necessity gave occasion; probably first practis'd among the *Egyptians*, says the great *Heurnius*, for we find its chief *axioms* to come from them; as to be seen in *Hipp. 1. Aph. 22. and Arist. 3. Polit. 11. and Herodotus*, in *Enterpe*, tells us, particular diseases among them, had their particular Physicians; so for the head, teeth, eyes, &c. and their Land is most fruitfull in Medicines. Now Experience first invented the dietetic part,

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To

THE INSTITUTION.

Hipp. de Vet. Med. for men changing dyet, when sick so recover'd; which *Herodotus* says the *Egyptians* did, who used every month to purge three days, thinking all diseases proceeded from dyet; for their air never chang'd. The *Grecians* make *Apollo* the Inventer, and *Æsculapius* the Amplifier; who was esteem'd a god, because he call'd to life *Hippoclytus* and *Androgeus* Son of *Minois*, but I suppose 'twas because he prolong'd their Lives by his Art. *Pliny* will have it *Chyron* and *Centaur*, whence *centaury* so call'd. *Æsculapius's* two sons, *Podalyrius* and *Machaon*, in the *Trojan War*, practis'd rather *Chirurgery*, than *Dyet* or *Pharmacy*. Whatever Mortal was the Author, we are most infinitely oblig'd to the Divine *Hippocrates*, the first Writer, for our knowledge therein. Next *Galen*, who expounded him, distinguish'd things confus'd, supply'd what was wanting, and may deservedly be held to have completed the Art; for what hath since been writ to purpose, is drawn from their Ocean. 'Tis defin'd by *Hipp. l. de flatib. additio & subtractio*; because diseases come from *repletion* or *inanition*, and so are cur'd, by subtracting what's redundant, and adding what's deficient: its subject for Theory and Practice, the *macro* and *microcosm*. 'Tis parted into three Sects.

THE INSTITUTION.

1. *Empirics*, who slight Reason, and only build upon use, they enquire only into the symptoms; they try medicines, which they call *antöpsia*, *i. e.* self-seeing, or learn them tryed from others, which is call'd *history*; or whatsoever they find in Books: then they use them by passing from like to like; either from diseale to diseale, as in *erysipelas* and *herpes*; or from remedy to remedy, as in *mespilo* and *citoneo*; or from part to part, as *brachium* and *tibia*, &c. Remedies, they say, are *fortuita imitatoria*, or *consulto adhibita*; they allow only of evident Reason; *Acron Agrigentinus* was the first of this Sect; who had many followers; and of which there are too many at this day, such as the *Pseudochymists*.

2. *Methodics*, these mind neither *part affected*, *cause*, *age*, *time*, *region*, *faculties*, *habit*, nor *custom* of the sick, only the disease; wherein they consider'd *communitates*, *i.* common notions, whereof two are simple, one mixt; they'll have every disease to be either bound or loose, or compound of both; the bound they loosened, and the loose they bound; in mixt they helpt what urged most; and so they said the whole Art might be learnt in six months; communities are either passive, as what's *bound*, *loos'd*, or *active*, as *to bind*, *loose*; or temporal, as the *beginning*, *augment*, *state*, *declination*. To heal, is to remove

THE INSTITUTION.

what's *strange*, which is either *extern* or *intern*; that's so *simple*; that is so either in *place*, *magnitude*, or *defect*. *Themison* began this Sect, whom *Juvenal*, speaking of the incommodities of old Age, mentions, when he says they are as many attending it.

Quot Themison agros autumnno occiderit uno.

Theffalus Trallianus finisht it, who, in his Monument in the *Appian* way at *Rome*, would be call'd *Iatronices*, i. *medicorum victor*.

3. *Dogmatics*, or *Rationals*; these inquir'd into all abovenam'd; *Hippocrates* was the Author of this, and *Galen* completed it. And this is to be chiefly follow'd, being compos'd of *reason* and *experience*: of this are 2 parts, *Hygiene*, which shews how to preserve health; and *Therapeutic*, which cures diseases. But these being not to be accomplish'd without knowledge of bodies and diseases, three other were added, *Physiologia*, which unfolds the natural constitutions of bodies: *Pathologia*, which looks to the nature, cause and symptoms of diseases. *Semeiotica*, which discourses of past, present and future signs. *Hygiene* considers six *non-natural* things, with their various use in sick and sound, old and young, &c. *Therapeia* teaches how to cure diseases, by *Diet*, *Pharmacy* or *Chirurgery*.

Now

THE INSTITUTION.

Now this Book being chiefly compos'd for the young Students in the last, I shall lay down a few Rules for the easier attaining to the knowledge thereof.

Know then, with our famous Dr. Read, I define *Chyrurgery*, a branch of the therapeutical part of *Medicine*, whereby divers diseases of mans body are cured by manual operation. The first words contain the *genus*, the last, *i. e.* by manual operation the *differentia*, for of these two all definitions consist, according to Philosophers. It differs from *Dyet* and *Pharmacy*, in that they act not upon their subject by manual operation. It's etymology's obvious from *chier*, *manus*, and *ergon*, *opus*; and though formerly mean Mechanics have been call'd Chirurgions, yet now 'tis by excellence attributed only to those who work upon that divine subject, the body of man.

Now the means to attain this Art, is by acquiring a competent knowledge in the fore-named parts of *Medicine*. The first whereof is *Physiology*, no one can cure aright, that does not well know the constitution of the body he has in hand; which is properly *natural Philosophy* it self, translated to a medicinal use: for *ubi desinit physicus, ibi incipit medicus*; but the *Natural Philosopher* ends not but in *Physiology* and *Pathology*; so the study of *Medicine* is to begin with the *Semeiotica*,

OR

THE INSTITUTION.

or *Therapeia*. Now in *Physiology* are to be consider'd, *Elements*, *Temperaments*, *Parts*, *Humors*, *Spirits*, *Faculties*, *Actions*; of which in order.

PHYSIOLOGIA.

An *Element* is a simple body, out of which a mixt is compos'd, and into which 'tis lastly resolv'd; these are four, *Fire*, *Air*, *Water*, *Earth*, which *Hippocrates l. natur. hum.* call'd *hot*, *cold*, *moist*, *dry*, from their qualities.

From these temper'd among themselves, rises *Ovid's concordia discors*, of one body, which, according to the quality of mixtion, obtains such and such a nature; whence 9 differences of temperaments, 8 intemperate, 4 simple, *hot*, *cold*, &c. 4 compound, *hot* and *moist*, *hot* and *dry*, *cold* and *moist*, *cold* and *dry*, 1. temperate either simply so, or according to *weight*, when the qualities are equal, which is rather *Utopian* than real, or at least but momentany: or according to *justice*; wherein is a moderation of Elements, agreeable to the nature of Man, Beast, Plant, &c. of this are certain limits, *quos ultra citraque nequit consistere sanum*. 'Tis divided into *sanguin*, *bilious*, *phlegmatic*, *melancholic*, and so analogous to the Elements and Humors, call'd second Elements; sex and age follow temper; A

THE INSTITUTION.

temper; males commonly hotter than females; childhood to 14 years, hot and moist; adolescence to 25, the best temper; manhood, decays to old age, growing cold and dry.

Now that all things live by an innate heat, and that it might penetrate all the parts of the body, 'tis resident in the spirits, whose definition (whatever *Argenterius* says) is this; A spirit is an airy, subtile, clear body like a vapor; the seat and bond of the faculties, and the first instrument of the functions; whereof the *basis* is *humidum radicale*. Some make three Spirits: 1. Vital, sent from the heart by the arteries to all parts. 2. Natural, of which the vital is begot, by inspiration of air: of this *Galen* doubted, as includrd in the vital, but the spirits of aliments ought not to be denied to the blood, whence hotter blood from wine than lettuce. 3. Animal, made of the vital elaborated in *plexu retiformi*, sent out by the nerves for sense and motion, and to irradiate the parts; some hold only the first and last, some the last.

A part is perfectly defined by the great *Fernelius*, a body adhering to the whole, endued with common life, ordained for its function and use. So hair, nails, fat, marrow, &c. nor *Hippocrates's* humors and spirits, strictly deserve not the name of parts. Of Parts, see By Anatomy.

THE INSTITUTION.

By *Humor* understand not, with Philosophers, a quality opposite to driness, but a body, yet not any, for chyle, feed, milk, sweat, urine, &c. are not properly humors, but only the alimentary with their excrements: 'tis rashness to deny them, seeing they affect us in quantity, quality, &c. they're begot of the mixtion of aliments, four in general. 1. Natural, going under the name of blood, whose hot, cold, thick, thin parts, are call'd choler, phlegm, melancholy; *serum's* their vehicle, expell'd by urine, sweat, tears, &c. Pure blood makes men blithe, florid, prudent, &c. but if it redound, foolish, &c. 2. Excrementitious are to be voided by their proper places; Phlegm is, as it were, nutriment half cocted, so is to be alter'd, but that in the intestines unconcocted, is absterg'd by bile, and voided by siege, that that distills from the brain is *mucus*: this makes men slow, sleepy, &c. Bile hath its seat in the gall bladder, to purge the bloud from jaundise; and irritate the belly, and absterge phlegm; it makes men angry, quick wit, &c. Melancholy, *fax sanguinis*, black, seated in the spleen; if not voided by hemorrhoids, &c. the whole body waxes black; it makes deceitfull, sad, envious, timidous, &c. but mixt with blood or bile, constant and ingenious; it helps concoction, *Gal. 5. de usu part.* being
acid

THE INSTITUTION.

acid and contracting, and by its acerbity causes hunger; *Soranus* says these domineer in the body at certain times, blood in the morn, bile at noon, melancholy in the evening, phlegm by night. Blood natural is simply so call'd, but ill-affected, bilious, pituitous, melancholic, made so by putrefaction, adustion, refrigeration, or obstruction. And when it exceeds in quality or quantity, 'tis 3. Preternatural, of which Phlegm's fourfold; sweet, often spit out; acid, less cold than glassy, more than sweet; glassy, very cold, cleaving to the intestines, causes torments; at length becomes plastrous, whence *tophi in articulis*, salt, from putrefaction, or mixtion of salt serum. Bile fourfold, vitelline burnt in the veins; Porraceous, begot in the stomach; *Eruginous*; woody, sometimes begot in *ventriculo*, sometimes in *venis*; all call'd from their likeness. There is but one species of *atra bilis*, very hurtfull, sharp, fomenting the earth like vinegar, caus'd of adustion or putrefaction of other excrements: vitelline bile turns to porraceous, eruginous, glasteous, at last to black; 'tis made also of the blood's thicker part, as bile of its thinner; it cannot be made of phlegm, unless salt.

The Soul's the form, and cause of all operations, by which 'tis known, else its essence would be hid. *Galen* calls that *temperies*, by which

THE INSTITUTION.

which 'tis conserv'd *intemperie fugit è corpore*; but *temperies* and innate heat, are only the *causæ sine qua*, it stays not to operate. Faculty is the cause from which action proceeds, or the natural power of the Soul ordained to work by it self, from which action in active motion proceeds; operation is that which is performed by action; as flesh, bloud, &c. action indeed is operation, as sanguification, &c. not *è contra*, as flesh is the operation, not action of nature: faculty and action is three-fold, 1. Natural, even in Plants and Brutes, called the concupiscible, and altering, diffused in every part from the liver; has 4 subservient, attracting, reteining, concocting, expelling; some common parts have faculties, as stomach, &c. for themselves and others, for which they use *fibres*, but coction is performed by heat and faculty. 2. Vital, from the heart sending life; *Plato* called it irascible. 3. Animal from the brain, by nerves, sends sense and motion.

Now *actions* are to be considered in health and sickness; when unhurt and hurt they shew them; and for prediction. Action is never hurt in natural organs, where the faculty's insite, but a part is affected; but animal organs have the principle of sense and motion elsewhere, so action may perish the part unhurt. Natural faculty's action is
triple,

THE INSTITUTION.

triple, 1. Nutrition, the turning of aliment into the substance of the living weight, which is done by a triple coction, 1. in the stomach chylifying, which is helpt by the liver, other parts heat; 'tis the seat of hunger, because of an exquisite sense, for hunger is a pain in desiring meat; it is nourished by blood, not chyle, the feces mixt with chyle are thrust out and tinctur'd with bile; urine is an excrement of this coction, for every one hath two, thin and thick; the chyle cocted is detrudd by *pilorus* to the intestines: the meseraic veins attract what's serviceable, and then 'tis carried to the liver, and there turned to blood; and this is the 2d coction and sends to all parts of the body, as in Anatomy, which assimilate it, which is perfect nourishment: thus in the veins and arteries is a nameless humor, not much unlike blood, bedewing the parts of substance, it is called *ros*, cleaving *cambium*, perfectly assimilated *gluten*, and these are the *Arabians* secundary humors. Auction, which is an amplifying a body in length, breadth and depth, till it acquire its full magnitude; but calor and humor decrease till the weight dies.

Generation is a work of the natural faculty, for propagation of *species*, or a motion to a new substance; when Animals are not perpetual, what they cannot obtain in individuals, they obtain in *species*.

Now

THE INSTITUTION.

Now generation of perfect Creatures, is of the males seed, and the females menstruous blood, and consists of alteration, giving the substance and formation, conjunction of parts, form, site, &c.

Seeds are join'd in the womb, whence follows conception; then the plastic faculty makes the 3 membranes involving the *fetus*, and forms all the parts together, for they want one anothers help; neither are they inform'd first with the vegetative soul, then the sensitive, and lastly the rational; for they are organs of all; and now having a house prepar'd, it begins to be nourish'd; about the 3d month it moves, before it has neither soul, life nor motion; 'tis not nourish'd by the mouth, say some, but draws the maternal blood by the umbilical vessels, which are a vein, two arteries, and *ourachos*, by which 'tis thought to void urine; others say 'tis nourish'd at the mouth by chile, till it grows bigger, and wants room and air, then by kicking breaks the membranes, &c. before the 7th month its birth is not vital, in the 7th it may, if strong; else 'tis defer'd till the 9th, 10th, or 11th; not vital in the 8th month out of *Egypt*.

The vital faculty's a middle betwixt natural and animal; 'tis in the heart, hither is refer'd pulsens a respiration, of which in Anatomy.

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THE INSTITUTION.

The animal virtue is the principle of motion, sense, understanding, because join'd to the phantasie, else 'tis not an organical faculty; 'tis triple, 1. Sensitive, the outer senses are, 1. seeing, whose object is any thing visible, color or light; its organ is the eye, chrystalline humor, other parts are only subservient. 2. hearing's object is sound, its inner organ the membrane full of air, outward water, or air. 3. Smelling is objects odor, the middle air and water, organ's the nose. 4. tast's object is *sapor*, organ *lingua*; touching's objects are the first and second qualities, organ, membranes and nerves. The inner sense or principal faculty is triple, phantasie, reasoning, memory, the common sense is as it were the others centre, and their Judge, it distinguishing between color, sound and other objects; phantasie apprehends, and distinguishes all objects and forms offer'd by the outer senses; by reasoning we meditate of conceived *species*: memory conserves things known. To the outward senses is refer'd sleeping and waking; sleep is caused of a benign vapor, obstructing part of the spirit's course; not all for they breathe, and sometime walk; 'tis caused also by retraction of the spirits toward the heart, by the senses organs; whence singing, music, labor, talk, earnest reading, cause sleep; narcotics, by staying the spirits, pain, labor,

THE INSTITUTION.

labor, waking, by absorbing them, circular motions distract, coctions, frictions, *lotiones pedum* revoke, binders, obstructers, darkness, night, silence, bring a numness upon them. The loco-motive faculty is in the muscles, influenc'd from this spirit: of dreams, &c. in Philosophy. And this is the œconomy of our Body, according to the doctrine of the Ancients, I know the Moderns, as *Rolsinccius*, *Cartesius*, *Regius*, *Silvius*, and others decree otherwise, as to the doctrine of *chilification*, *sanguification*, *nutrition*, *generation*, *motion*, *respiration*, *sensation*, &c. but whether either be receiv'd, yet the old method of healing is not chang'd by the mortification of *plethora*, *cacochymia*, or any cause; but the same curatory, preservatory and vital indications remain still; as *Rolsinccius* hath strongly insinuated; and his defender the most excellent *Moebius*, elegantly prosecutes, and largely: Therefore, says the Learned *Jo. Daniel Horstius*, we owe God thanks, that the method of curing grows famous daily, and is still the same, notwithstanding the disagreeing of so many new physical and anatomical Opinions. Do not, I pray, the *Aristotelians* and *Democritics*, sharply contend among themselves about Elements and Atoms? and yet both heal the same way, as plainly appears from what *Leichnerus* hath elegantly delivered *Paragr. 55.* and after *ex 4 de Atomis.*

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THE INSTITUTION.

HYGIENE.

Next are things not natural to be consider'd, so called, because they are not in the body *secundum naturam*, as the faculties, nor *prater naturam*, as diseases, but in a mid way between both, for dyet consisting in their use, being well used they help, if not they hurt, by altering the body; for they defend both, and prevent diseases, therefore see their use in both; they are 6. the first is *Air*, consider'd in substance, quality, occasion and use; air pure and clear, the grounds east and north, high places best, hot augments bile, causes fevers, &c. cold distillations, hinders transpiration; promotes infirm coction, but hurts infirm bodies. Dry illustrates the spirits, hinders putrefaction; moist, hastens putrefaction; in diseases it must be of a contrary quality, by art or nature; light is for mild diseases, dark for implacid, &c. in long diseases 'tis good to change Countries, *Gal. 5. Meth.* sent those troubled with *tabes* to *Tabias*, a dry Air, nigh *Naples*, where was plenty of dry herbs, so that milk was very proper in the cure. The Moon changes the Air with its quarters, the first like Spring, temperate; the 2d Summer, hot and dry; the 3d Autumn, uncertain; the 4th Winter, cold and moist.

Motion

THE INSTITUTION.

Motion, comprehends all exercise, whence three commodities, hardness of instruments from mutual attrition; increase of insite heat, and vehement motion of spirits, strength of actions and health, follow hardness of organs; attraction, coction, distribution, nourishment, expulsion, follows increase of heat; for passages are looser, humors melted, solid parts softened; and a strong spirit purges passages, expels excrements; so *Hippocrates* says right, *To study health, is to be quick to labor*. Exercise till the body be florid, sweat begin to flow, and motion nimbler; hot, dry bodies, less than cold, moist; let labor precede meat, *Hip. 6. Epid. 4. Aph. ult.* excrements of belly and bladder evacuated; who cannot exercise may use frictions; there are divers kinds of exercise, Tennis, &c. for the whole body; riding the intestines, &c. walking and running the thighs, &c. reading, singing, the lungs; lastly, quiet may help and hurt, as well as exercise.

Meat and drink, call'd *aliments*, repair our body; they must not be too unlike our body, as Stones, &c. but animated, as Plants, or Animals, or coming of them, as milk, wine, &c. 'tis either simple, as flesh; or medicinal, as vegetables; which respect the cause of the disease; in flesh the quality is not minded, but only the substance. Now in *aliment* mind
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THE INSTITUTION.

the substance, or goodness, or quality, quantity, custom, delight, order, time, region, age, &c.

As for substance, it must breed good juice so Birds before Beasts, younger before older; for quality, hot heat us, &c. health must be preserv'd by its like, a disease mended by its contrary: so must resist the disease by their quality, but by accident; for a disease doth not indicate dyet, but a remedy; therefore to young and feverish, a moist dyet, 1 *Aph.* 16. let it be like the temper, age, region, season, unless the temper be to be reduc'd to its contrary; for in diseases it ought to be contrary; as moist and cold, in fevers, chiefly if the temper be the same, as a fever in a bilious temper; so full of crude humors must use attenuaters.

For quantity, it must not be more than nature requires, lest it cause a disease; 2 *Aph.* 17. and to study health, is not to be cloy'd with meats, 6 *Epid. Aph.* 20. Repletion's the parent of *plethora*, and *cacochymia*; a mean conserves health. In acute diseases, the less meat; 1. *Prisana*, or thin broth, 1 *Aph.* 7. in chronic not so sparing; when 'tis best to err with the most, *Aph.* 5. yet *Hippocrates* doth not absolutely persuade a full dyet; for 2 *Aph.* 30. & *Gal. Comment.* 52. write what exceeds hurt, what's wanting easier amend-
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THE INSTITUTION.

ed, &c. in great pain and acute disease not good to give meat; strength is always to be ey'd, lest it fail, or be oppress'd, 1 Aph. 9. for this prescribes the form, quantity and manner of dyet; if strong, nourish well; if not, sparingly. In the sick 'tis to be compar'd with the disease and cause; for a great disease bears not meat, lest nature be call'd from its coction. In chronic a mean does well; in acute towards the state specially; the sharper the thinner dyet, when the symptoms are more grievous. Future strength is also to be ey'd, yet 'tis safer to decline to excess, than defect. If the strength be exhausted with watching great evacuation, a fuller dyet; but if by oppression of humors, with vehemency of symptoms, lessen it: for strength never urges, unless wasted; custom is never to be neglected, in sick give a grain of allowance to custom; for sudden changes are dangerous, 6. Epid. 3. 21. For Order

Ut vites pœnam de potibus incipe cœnam.

Which is to be understood of broths, &c. not strong wine, &c. which hurting the nervous parts, breed gouts, and fluctuosities, then drink at last to mix all; so

Incipe cum succo, succo finire memento.

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THE INSTITUTION.

for time, take not meats unseasonably, nor before former coction. In diseases give not in the Paroxysm, 1. *Aph.* 11. 18. unless the Fever be caus'd of want, labor, &c. sharp juices. Eat sparingly in a hot Country; so youth eats more than old, *Aph.* 13. 14. to youth a moist dyet, 1. *Aph.* 16. but if hot and dry, cold dyet; boil'd rather than roast; small drink. In strong bodies, supper larger than dinner, for sleep concocts, watching digests; let him that's subject to catarrhs, sup sparingly. If there be want or corruption, eat often and much; if Paroxysm, or Symptom hinder not. If weak, and full of humors, eat seldom and little; with want of humors, and malignity, a little, and often.

Drink appeases thirst, and is the vehicle of meat, if only water or small beer, for strong bodies it may be liberal, else sparing and often; who eat much, drink much, & *contra*. For water, fountains or river are best; wine and strong liquors, hurt bilious, hot natures; breed gouts, and scurvy diseases; for bread best leaven'd nourishes most, rye and barley less, but deterge: fresh fish beget phlegm; are easily corrupted; salt of bad juice; green fruits beget thin, serous juices, temper humors, moisten.

Sleep concocts meat and humors, corrects the diseases of the mind, moistens, 6. *Epid.*

THE INSTITUTION.

sect. 5. aph. 10. labor's for the joints and flesh meat and sleep for the *viscera*, longer than 7, or 8 hours gathers excrements; best by night, hurts those whose *viscera* are inflam'd, chiefly *in principio*, blood flowing to the inward parts, 6. *Epid. sect. 5. aph. 29.* and in the beginning of Fever fits, for when there's rigor, horror, or coldness of parts, heat and humors are drawn inward, when 'tis better by watching to be drawn outward, else crudities are multiply'd, and hard to dissolve; for blood is carried outward by watching; 6. *Epid. sect. 4. aph. 12.* sleep on one side; watching must be moderate too, for too much breeds crudities.

Passions are turbulent and stir'd motions of the mind, therefore much of use in the body, the *Stoicks* would have a wise man without passion, but the *Peripatetics* allow a mean, as anger in phlegmy bodies: fear contracts the spirits, anger stirs heat; in bashfulness the blood first moves inwards, but quickly returns again outward; if not, 'tis fear: some have died suddenly with fear, no body of anger; for by it heat's not cool'd, nor strength dissolv'd, or spirit recall'd, as in fear; pusillanimous have died of joy, the faculties being dissolv'd, and so of shame; therefore the passions are not to be neglected, but corrected, for they shew diseases present or future. If
fear

THE INSTITUTION.

fear and sadness hold long, 'tis melancholy, *Aph. 25. l. 6. & 6. Epid. sect. 828.* and we may so know whether they come without cause, or not. *Excreta & retenta* help, if what's to be evacuated be so & *contra*; these are excrements of the belly, urine, insensible transpiration, courses, feed, hemorrhoids, &c. for a farewell to this, remember that saying of *Hippocrates, labor, cibus, somnus, venus, omnia mediocria.*

P A T H O L O G I A.

A disease is a preternatural affection, hurting first the actions, of which are three kinds, *similar, organic, and commune*; whose integrity is requir'd in health, but one failing in sickness.

A distemper is a similar disease, and is either equal in all parts, and without pain, as in a hectic fever, or unequal, as *anasarca*, tumors, &c. and is with or without matter, simple or compound, as is *Physiology*.

Organic in ill conformation is fourfold; composition, number, magnitude, site; in composition are three *species*, vitiated figure, as a strait part made crooked, & *contra*, vitiated *superficies*, as a smooth one made rough, & *contra*, cavity too much dilated by *anastomosis*, &c. or bound by obstruction, compression,

THE INSTITUTION.

tion, contraction, *subsidentia*. A disease in number, is by defect or excess, as 6th finger worms, &c. In magnitude apart, bigger or lesser. In site, when they possess not their natural place, as in *hernia's*, &c.

A disease *commune* to similar and organic parts, is call'd *solution of unity* ; of which in wounds, &c. diseases of matter are organic, as softness, hardness of parts, &c. diseases of form are similar ; the temper and figure of a part being whole, action cannot be hurt by the only fault of the form ; agents by their whole substance beget ordinary diseases, as a malignant ulcer is a solution of continuity, but malignity is the quality of the cause.

A *cause* is a preternatural affection, producing a disease: in generation 'tis whatsoever conduces any thing to the begetting a disease; and so it contains *causa sine quâ non* ; it hurts not the function first but by a disease ; 'tis fourfold, material, formal, final, and efficient, of which last only here, 'tis that by which a thing is caus'd, so the subject be capable ; whence in the same place all are not infected ; 'tis *per se*, apt to produce the effect, as heat of the Sun, causes a Fever, by *hap* cold obstructing the pores: 'tis intern and extern ; this is without as non-naturals, &c. call'd *procatartick*; that's within the body, as *plethora*, &c. call'd *antecedent*. *procatartick*. causes not a disease,

THE INSTITUTION.

ease, unless in a body dispos'd, 'tis otherwise call'd *manifest*, for 'tis always evident, *non contra*, as a Sword is the evident outer cause of a wound, but not the *procatarēt*. because it requires not a disposition. The antecedent is the very morbus disposition found in humoral diseases, and may oft be prevented by remedies, that it hurt not; when it actually hurts, 'tis call'd *conjuncta*, or *continens quam posita, ponitur morbus, sublata tollitur*; 'tis ont as in humorals: always immediate *non contra*, as a Sword's the immediate cause of a wound, not the continent; plenty of meat, is *causa procatarēt. plethora antecedens*, blood flowing to the side *continens*.

Now the *evident* are contingent, as a Sword, &c. or necessary, as 6 *non-naturals* to which add *contagion*, &c. the antecedent offends in *quantity*, or 1st and 2d *quality*; to which add *putrefaction*! *quantity's* (if not in defect, as in a hectic's) call'd *plethora, quality, cachochymia*. *Plethora's* a proportional redundance of all humors, or blood alone; *ad vasa* distending, or *ad vires* oppressing them, caus'd by hot aliments, &c. *Cachochymia*, by fault of coction, or 6 *non-naturals*, &c. contained are *stones, worms*, &c.

A hot distemper's caus'd by nearness to hot things, stay i'th' Sun, obstruction, motion of body and mind, &c. cold *ē contra*;

THE INSTITUTION.

So dry and moist from contraries; compound have compound causes; *Humor's* the cause of a material distemper. A *formal* depends on inward putrefaction, or from the air, caus'd by contact, foment, as in *lues venerea*, or at distance. In organic diseases figure is vitiated in the womb, by fantasie or error of the midwife, or after, from a fall, error of Surgery, &c. Passages are *dilated* by emollients, eroders, fulness, in *anastomosis*, *diarexis*, &c. *streined* by obstructers, *caruncula*; tumor growing to ligaments, call'd *constipatio*, vacuation of humors *subsidentia*, or after a wound, &c. *coalescentia*. Magnitude's increas'd by *humor*, *tumor*, or bond broke, referr'd to site, diminish'd *è contra*. *Solution of unity's* caused from an inciding, biting cause, &c.

Accidental differences are necessary to be known by their causes, subjects, &c. A disease is caus'd by consent, by communicating morbid matter, *diadosis*, i. distribution, critically or symptomatically, or *metastasis*, i. translation to another part, or intercepting humors, &c. as in the Palsie the spirits. If the disposition be constant from symptoms, 'tis call'd *deuteropathia*, for sometimes a disease may be caus'd of a disease by connexion, nearness, society, likeness of parts. A disease is great by symptoms, cause, excellency of parts, &c. if short and great, 'tis *acute*, of which

THE INSTITUTION.

which sort are *perperacuti*, ending in 4 days, *peracuti* in 7, *acuti* in 14, after *acuti ex decidentia*; if extended to 40 chronic. *continued* and *intermittent*; the intermission and parox-
 ism make a period; parox-ism's caus'd by new congestion, putrefaction, or motion of matter. *Diseases* are either *Sporades*, i. of divers kinds, invading many at once, as one with *ophthalmia*, another with a pleurisie; or *communes*, of the same kind, and seize divers at once, and are either *endemii*, i. familiar to one region; as *struma* to the *Spaniards*, &c. or *Epidemii*, seizing some region, either pernicious or not; these have common causes, *Sporades* particular. Lastly, diseases have 4 times, according to motion of morbidic causes; universal by reason of the whole disease, or particular in intermitting ones; the *beginning's* when the cause first sensibly hurts, or the time till coction appears; the *augment*, the increase of symptoms; *state* when the fight's most vehement; *declination's* only in salutary diseases. The parox-isms of intermittent have these times which agree with the universals. A relapse is the return of the same disease, though extinct, caus'd by morbidic humor, left after an imperfect *crisis*.

A symptom follows a disease, as a shadow the body; of it are three sorts, of action, hurt,
a. 4. di-

THE INSTITUTION.

diminish'd by weak faculty, *deprav'd* in phren-sies, *abolish'd* in cold, rarely in hot distem-pers. 2. of *excrements* offending in *sub-stance*, when good blood's evacuated, or stones, worms, &c. *quality* as heat, putrefa-ction, &c. *quantity* as too much evacuation, retention: *manner*, as blood voided at the dugs, eyes, &c. 3. *quality* chang'd, from actions hurt, and excrements: colour vary's from humors, taste from them, or excrements, smell from putrefaction, or other affection of parts and humors, and so of others.

SEMEIOTICA.

A sign's that which shews any other thing, naturally as weeping, or institution as speech; with Physicians, causes, symtoms, effects, are signs, and these shew health, sickness, or neither; whence so call'd, as to bodies, cau-ses, signs; of bodies in Physiology, Anatomy: of causes in Pathology, signs here Unhealth-ful signs are *diagnostic*, *prognostic*, or *anam-nesic*; whence taken, see Reports.

A part ill affected's known by action hurt, excretion, site, pain, proper symtoms; to which add sex, age, custom, &c. consent of parts; an Idiopathic, *i.* primary disease is permanent, a sympathetic irritated by a dis-ease of another part, is quiet, or afflicts by intervals; add things hurting or helping, as remedies administred to one part hurt, or help another.

The

THE INSTITUTION.

The *species* of a disease is known by 1. *excreta*. 2. *pain*, as a pricking one shews a sharp humor, stupid cold; distending water or wind, heavy humors. 3. *nature* of a part, as *ophthalmia* to the eyes. 4. *proper accidents*, as qualities chang'd, actions hurt; if abolish'd, argue a cold; deprav'd, a hot disease. 5. *from precedent causes*, disposition of body, &c. a malignant one's known by its 1. *nature*, as *lues venerea*. 2. *cause*, as putrified air, corrupt humors, &c. 3. *symptoms*, if light, the patient, made weak, not eas'd by sweat and excretion, coldness of the extreme parts watchings; or drowsiness in the beginning, horrors, dropping at nose, light fever, pulse like one sound, tongue grow black, exasperated, faints, 'tis malignant, & *contra*. of causes and humors before.

Pulse shews the hearts strength, *Urine* the nature of the *liver*. spleen, reins, vessels, &c. both to be minded, for rarely's bad urine with good pulse; yet always remember this, *Pulsus incertus, urina fallax, dejectiones fideles*; but all subject to be alter'd by natural, non-natural, and preternatural things; the absolute differences of pulses, are taken from space of motion, time, middle quiet, moving faculty, and moveable. The respective from the equality, inequality, order, *proportion*. The absolute are great, strong, and shew firm faculties,

THE INSTITUTION.

culties; weak, &c. *contra*. quick, heat, fever, humor easily dissipable, slow, *contra*. often from a weak faculty, dangerous, hard, and languid together, a syncope, *sic de ceteris*.

Urin's to be inspected in the morning cold, within six hours; but see the Patient if you may. In it consider, 1. *liquor*, its substance, if thicker or thinner, argue bad coction; thin obstruction of veins, much drink, weak coction in the liver and veins, in acute diseases, whence with weak faculty death, strong, long disease; abscess, relapse; in chronic, obstruction.

Thick's from mixtion of humors in the beginning, sign of fight with disease, after thin, a sign of security, very thick long pains, abscess, relapse, from oppression of heat.

Perispicuous, strength of heat; if thin and white too, crudity, phlegm, long disease; if so the 4th day in *acutis*, death.

Thick, turbulent, from stone in the reins, excrements of the bladder, crudity: piss clear after thickens, sign of coction beginning: *thick* after clear sign of victory; secretion of humors, &c. thick piss so remain worst, shews perturbation, doubtful combat, *delirium*, imminent or present, pain in the head, convulsion, death.

Copious, from much drink, diuretics, else ill; if not critical, as in ardent fevers, from
col-

THE INSTITUTION.

colliquation, weak retention, heat of reins, *in diabete*, little *è contra*. ill in *iliosis*, *morbis acutis*. *renum*, &c. sinking smell, is from putridness, ulcer, ill in acute, unless critical. *Color's* from mixtion of humors. *White* without fever, crudity, obstruction of the liver, &c. liberal drinking; with an acute fever dangerous, from weak faculty; bile flying to the upper parts, as in pleurisie, jaundies, threatens a dropsie, *aph. 72. l. 4.* white and thick slegm, pitchy, yellow, safrony, degrees of bile: reddish and thin, danger of abscess; reddish and thick, long disease; in fevers, inflammation of reins, liver, &c. length in the beginning, in the state death: *cruent*, if critic, good; else opening of the veins in nephritics; red from bile, with splendor, from bloud not. *Leek-blade* color, adust, bile, putridness; *sea-green* from melancholy, sometime death, if not critic; black *idem*, sometime from black mixt humors, and may be critic, and safe in acute and chronic; in suppression of months, splenetics, quartanaries; if yellow preceded, 'tis from heat and ill. *Contents* are the clouds, *enacoremo*, i. that swimmeth in the middle, and sediment. In sick, they come from a morbid humor, or if he live plentifully, from aliment. *Sediment* as in sound notes coction, in the middle less, in the cloud least; if it suddenly appear, shews quick *crisis* to health, if

THE INSTITUTION.

if laudable, if ill to death. Want of *content's* from crudity, combat of nature and disease, weakness, inflammation, obstruction, or great vacuation; not ill in sound, but oft in sick. If it have a good sediment, and suddenly not, labor and change from contumacy of the disease, or weak heat: red sediment long, but salutary disease, *aph. 71. l. 4.* black in acute worst; rough, contumacy; unequal, difficulty of coction; *varycolor'd*, now white, then red, &c. *varyfigur'd* now round then divided; in consistence now thick, now thin, all ill from difficulty of coction. *Copious* in the beginning crudity, in the declining, *ceteris paribus*, good; from *colliquation* come fat, oleous, pultrous, scaby, branny urines; from burning heat, sandy, stony, hairy: Sands sticking to the glass side, are from the reins, and shew heat, in sick, fever; purulent and fætid an abscess; less fætid from the reins, than bladder, and's more mixt, without scales, pains in the loins, not groins; if in neither from the upper parts; *pinguous* mostly in pestilent fevers; *pultrous* sediment from colliquate flesh, from burnt blood only, long disease, *aph. 37. l. 7.* *scaly's* not fætid if from colliquation, but deadly; from an ulcer fætid, *aph. 8. l. 4.* *branny*, not from an ulcer, and scaby bladder, deadly, *aph. 77. l. 4.* *bubbles* from wind, and shew head-ach.

In

THE INSTITUTION.

In *dejections* note the substance, quantity, quality, manner of voiding; hard from heat inward or outward, much urine. *Si intercepta, alvus pauca, nigra, & in spiras circumducta dimiserit, & per nares eruptio fiat, malum, ob magnum incendium viscerum.* Liquid, crudity, in *lienteria*, *mesentery* obstructed, hindering the chiles passage, catarrh, colliquation; good in diseases if critic; not in the beginning, whence in *Coac. perliquida dejecta & multa neque quiescens in acutis, mala, maxime si abfuerit sitis, ob caloris extinctionem*: bad also with a swollen belly; in mild diseases length; after long ones bad, because it comes of weakness; small, white, light, glutinous, bad, 2 *prog.* 21. and fat from colliquation, if not from meat; hot, sharp, heat; cold, *è contra*, stink from meat or bad coction, putrefaction; color from humor, or medicine; versicolor'd ill, 4. *aph.* 21. if not from cathartics, then tends to better, 2 *aph.* 14. fætid, red, billious, eruginous, choler go upward and downward, deadly. If liquid with sound, bad, and void often and little; frothy from a defluxion à *capite*, mixt flegm and wind, in acute from colliquation, with æstuous spirit: lastly, they ought not to be much and oft, for dissolution of spirits; nor little and often, for watching.

THE INSTITUTION.

In *sweat* regard 1. *quantity*, copious in the beginning, with strength a long disease, with weakness death, *aph.* 42. & 56. l. 4. few bad. 2. *quality*, cold, bad, always in acute death; in mild length, *aph.* 374. taste, color, &c. from humors; stink ill, in the beginning before *crisis*. 3. *time* best on a critical day, else length and relapse. 4. it must be universal; particular as head, &c. in acute death, in mild length; from what hath been said, may judgment be made of *Mucus narium*, *sordes aurium*, *saliva*, *sputum*, &c. *lacryma* the same with sweat and urine.

Prognostics are very difficult, they may in great part be made from what hath been said; in acute are no certain predictions of life and death; nor in the beginning if the disease ends not the 4th day. Errors of sick and servants chances, which the Artist can neither foresee nor command; and *Hippocrates's aliquid divinum*, whether from the Air, Stars, Devil, Witches, &c. disturb *Prognostics*.

The manner of the event's here to be regarded; if by *crisis* or *lysis*, needful in prescribing dyet and remedies, for in an instant *crisis* thinnest dyet; nor to bleed, purge on critic days; a fierce fights *crisis*, none *lysis*; *crisis* is a sudden change to health, or death, chiefly health; 'tis nature concocts, separates, expels the morbidic humor: 'tis perfect without

THE INSTITUTION.

without fear of relapse, or imperfect and unfaithful, *contra*. A good *crisis*'s, 1. with copious excretion, or abscess; *trust not them that are eas'd without reason*. 2. signs of coction, on an indicating day, and critic day; for it hath place only in humoral diseases, and state, or a little before. 3. without dangerous symptoms, and Patients ease. 4. it must agree with the nature of the disease, for a burning fever ends in *hemorrhagia*, sweat, flux of the belly, vomit; a chronic in *abscessu*. 2. Nature of the part, for the globous part of the liver's emptied by urine, the flat by the belly. 3. temper, age, region, time, custom, sex, &c. signs of *crisis*, are causes and signs, as vomit, sweat, &c. or signs only, as pain in the head, watching, tossing, either precede, accompany, or follow. The first shew the time, or kind, as sweat, &c. as if the urine have a laudable sediment the 4th day, 'tis judg'd the 7th, if no error on any hand; if the first or second, 'tis ended the first quartanary. Grievous symptoms precede an instant *crisis*, which ought not to fright the Artist, if he see signs of coction, unless with malignity. A heavy night precedes a day *crisis*, a heavy day a night one: timely phlebotomy, gentle purging, as *Hippocrates* and *Galen* us'd, promote it, easing nature's burden.

Various

THE INSTITUTION.

Various *species* of *crisis*, 1. by *hemorrhagia*, its signs are *plethora*, &c. its in burning fevers and inflammations. 2. sweat, its signs are suppression of urine, rigor, &c. head-ach, pain in the stomach, trembling of the lower lip, nauseousness, &c. precede vomit; a suppression of other evacuations, shews a *diarrhea*, the contrary a flux of urine. If none of these appear, a translation follows by abscess, if to a noble part death. A good *crisis* falls on a good day; now a days with Physicians 24 hours, and begins from the hour the sick felt an assault; but in childbed, if she be taken with a fever long after labor, count's to be made from the time of the fever, not labor; if soon after labor, *è contra*; if 'twas not natural, for then the morbid humor began to be stir'd; if 'twas natural, begin from the day of the fever, for 'tis like the fever rose not from the agitation of the labor, but some other cause; so in wounds of the head, the count begins not from the fever, but wound; odd days are only critic and indicate; they fall in bilious diseases; if it begin the 3d, the 5th, and 7th, are critic, because bile hath a tertian circuit. If it begin from blood, the next day it draws bile into its company, which from its certain circuit, the 4th, the first critic, from the beginning; but the 3d from biles motion, and so forward. Now days are

THE INSTITUTION.

are *perfecte critici*, as 7, 14, 20. or indicating which shew a *crisis*, to come the 7th, and is salutary with signs of coction, as urine having light and equal sediment, the 4th shews *crisis* will be 7th; now they are 3; *quartus est index*, 7ⁱ. *undecimus*, 14ⁱ. 17ⁱ. 20ⁱ. which days are also often critical: or they are *inter-cident*; which are not *perfecte critici*, as in the first week, 3d and 5th, in the 2d, the 9th and 19th, in the 3d the 19th, which all follow the biles motion, the rest are vacant, neither judging nor indicating, and remedies are safely administred in them, as the 6th, to the 18th.

Forget not to take notice of the *Hypochondria's*, for if they be soft, equal, without pain, good, *è contra*, bad; so if hot, and other parts cold; if their pulse be great, shews madness; if contracted by inflammation of diaphragm, *peritoneum*, &c. *schyrrus*, inflated, inflam'd, painful, all bad. Likewise note the habit and actions of the body, as *Hippocrates's* face worst; wherein are sharp nostrils, fallen temples, hollow eyes shrivel'd ears, hard forehead-skin, face black, livid, provided it came not from watching, flux, &c. so the bulk, *sect. 2. aph. 28.* whose body in fevers quickly diminish, shew weakness, *è contra*, length of disease.

THERA-

THE INSTITUTION.

THERAPEUTICA.

The Physician's to cure *cito, tuto, and jucunde*, by fit remedies, and indications ; now *indication* insinuates what's to be done , if strength be overcome nothing's to be attempted, the thing *indicating* shews what's to be preserv'd, or destroy'd ; the thing *indicated*, helps the indicating, and's unlike the cause and disease, but like the faculties; coindicating's that which shews how, when, &c. any thing's to be done ; what hinders, contraindicates, that correpugns which lets secondarily, as bile indicates purging, strength coindicating, weakness contraindicates. In contrary indications, that's to be prefer'd which urges most, as weak faculties, &c.

The first indication's contrariety ; removing the cause, is call'd preservation. A similar disease requires altering; but moistning, heating's safer than cooling, drying; in organics obstruction desires openers ; in connex diseases sometimes one being cur'd, the other ceases not ; as inflammation in an ulcer's first to be remov'd. In causes the substance, quantity, quality, place, motion, are to be regarded, stones, worms, &c. indicate ablation ; vapor, discussion, quantity, vacuation ; quality, alteration ; motion of humors

THE INSTITUTION.

to the stomach vomit ; if immoderate, to be adstring'd or revel'd ; so humors in the first region vomit or purge, in the habit sweat.

In motion consider 1. the part *mittent*, indicating revulsion. 2. *recipient*, adstriction, or derivation. 3. the *passages*, interception. If humors are too quiet, use attenuaters ; if impacted in the parts resolvers, sensibly or insensibly. *Symptoms* as pain, watching, &c. if urge, encounter first, or remove the cause and they cease: conserve the faculties by diet; the rest rather coindicate, than indicate truly.

In parts consider 1. *temper*, a fever in a cold body's more dangerous, and requires colder remedies. 2. *action*, if private use remedies boldly : if public, *contra* ; not all at once, but by intervals ; not omitting strengtheners. For *remedies*, nothing makes this noble art so conjectural as their quantity ; the times, motions, symptoms of diseases shew the time of using them. All the rest's in the Book.

Here for conclusion let me advise thee to beware of the Pseudochymical Cure of diseases by *likes* ; for if a Flux be cur'd by Purge, 'tis by removing the cause, or some accident, &c. likewise of *universal medicines*, so much cry'd up ; your *diabolical charms* and *sigils*, &c. the *magnetic* cure, which they call *transplantation*, and *secrets*, of which two last more in this Book.

So

THE INSTITUTION.

So Reader farewell, and if these my pains
and endeavors be accepted by thee, in the
next Edition thou shalt have a compendious
Treatise of Operations, and particular Dis-
eases of the body, God sparing me life.

An



An Etymological Explication of Greek Words.

Ancorides, ab *ancyra*, an Anchor, & *ideftai*, to resemble.

Ancon, ab *ana*, upon, & *ciftai* to repose, because one leans upon his elbow.

Amoragia, ab *hæma*, blood, rein to flow.

Acromion, ab *acros*, the end, *omos*, shoulder.

Anatome, ab *ana*, often. *temnin* to cut.

Anodyne, ab *a* privative, *odyne* pain.

Aorte, ab *air*, the air, *terin* to conserve.

Apozema, a *de*, of, *zein* to boil.

Apophlegmatifine, ab *apo*, far *phlegmatizen* to spit.

Apophysis, ab *apo*, out, *phyim* to produce.

Arteria, ab *air*, *tirin* to conserve.

Arytenoidis, ab *arytana*, the beak of an ewe.

Astragalos, ab *a* greatly, *strephin* to turn.

Gangrena, de *grain*, to eat.

Gloutii, de *glyni*, to be soft.

Gonorrhea, a *goni*, semen, rein *fluere*, to flow.

Dermacutis, from *derin*. to flea.

Diaphragma, de *dia*, separation, *phraffin* to hedge.

Dropax, from *drepin*, to pull away.

Ilion. ab *ilein*, to turn, or rowl.

Emetic, from *emein*, to vomit.

Emminia, ab *en*, within, *min*. mouth.

Epigastrium, ab *epi*, super, *gastir*, venter.

Epigonis, ab *epi*, super, *genu* the knee.

Epithe ma, ab *epi*, super, *tithemai* to put.

Epiploon,

- Epiploon*, ab *epi super*, *plein* to swim.
Epispastec, ab *epi super*, *spain* to draw.
Epiphyssis, ab *epi super*, *phyin* to beget.
Epulotic, ab *epi super*, *ouli cicatrice*.
Errina, ab *en*, *intra*, & *rin nasus*.
Erpes, from *herpin*, to creep.
Erythrois, reddish, from *erythron* red.
Erysipelas, ab *eryn* to draw, *pelas* nigh.
Eschar, ab *es super*, *cain*, *urere*.
Thenar, a *thenin* to beat, or *thein* to put in.
Therapeutic, a *therapeuin*, to cure.
Thlasma, a *thlain*, to bruise.
Thyroidis, a *thyreos* a buckler, *idis* like.
Thorax, a *thein* to leap, *orin* to conserve.
Ischion, ab *ichin*, to sustain.
Ichor, ab *ichin*, to attenuate.
Camara, *fornix*, a vault.
Clinoidis, a *cline*, a bed, *ideftai* to be like.
Concha, o'th' ear, a cavity like an oyster.
Coccyx, from a Bird call'd a Cuckow, like its beak.
Condyl, a *Camphin* to bend, or make crooked.
Coracoidis, a *corax* a crow, *idis* like its beast.
Cotylis, a *cotyl*, cavity.
Cranion, a *chein*, to dry, because dry.
Cremafter, a *cremain*, to suspend.
Cricoidis, a *cricos*, a ring, *ideftai*, &c. to be like.
Cystis, a *cyin*, to hide.
Colon, a *coin*, to pour out.
Conarion, de *cones*, a pyramid, because like it,
Larynx, de *la* greatly, *ryin* to cry.
Masseter, from *massain*, to chew.
Mastoid, a *maftos*, a dug, a *massin* to suck.
Metacarpion, a *meta* after, *carpos* the wrist.
Meninx, a *menin* to preside, *yinx* the brain.
Mys, a mouse, resembling one flea.
Neurochondrod, a *neuron* nerve : *chondros* cartilage.
Nephri, *renes*, a *nephrin* to moisten. *ouron* urine.

- Xiphoidis*, a *xiphos*, a sword, *idestai* to be like.
Odontrimmata, ab *odous dens*, *trin* to rub.
Oedema, ab *idein*, to sweat.
Oesophagos, ab *iin* to carry *phagin* to eat.
Olecranon, ab *ole cubitus*, *cranon caput*.
Ophthalmos the eye, ab *optestatis* to see.
Pancreas, *pan al, creas* flesh.
Paracentesis, from *para* with, *centein* to prick.
Pararthrema, a *para* nigh, *arthron*, joint.
Parastatis cirsoides, a *para* nigh, *istastai* to be firm
cirfos, *varix*, from *cirin* to dilate.
Pericranion, a *peri* about *cranium* the skull.
Periostion, a *peri* over, *ostion* the bone.
Peritoneon, a *peri* over, *tinin* to stretch.
Perone, metaphorically a needle, from *perin* to pierce.
Plethora, a *plithos* quantity, *ora* limit.
Pterna, de *patin* to march, *erra* the earth.
Sarcocele, *sarx* flesh, *cele* a rupture.
Scirrhus, a *scira* plaister, being as hard.
Spasmos convulsio, a *spain* to draw.
Sperma seed, from *spirin* to sowe.
Splen, the spleen, a *spain*. and *yli* gross matter.
Spondyli, a *sphingin*, because bound together.
Sternon, a *stain* to be firm.
Stomachos, a *stoma* the mouth, *chein* to pour out.
Styloidis apophisis, a *stilos* a pillar, &c.
Symptoma, a *sun con*, *giptin* to fall.
Syssarcosis, a *sun con*. *sarx caro*.
Sphenoides, a *sphin* a wedge.
Sphincter, from *sphingin* to bind.
Tarsos, a *tarsin* to dry, because 'tis a dry part.
Torchanter, a *trochazin* to run, from *trochien* to move
Tripanon, from *trepin* to turn.
Hydrops. ab *hydor*, water, *pinin* to drink.
Hymen, from *hyin* to stretch.
Hypogastric, ab *hypo* under *gastir venter*.
Hypochondria, because under *xiphoid* gristle.

Hystera,

Hystera the womb, *abhysteros* last, having the last place among *viscera*.

Pharinx, a *pherin* to carry, *yinx*, the voice, *pin* to cry.

Phtisis, from *phtiin* to corrupt.

Phlegmone, a *phlegmonin* to inflame.

Phlebotomia, a *phlebs vena*, *temain* to cut.

Chalastica, a *chalaui* to relax, mollifie.

Choane, a *choin*, to pour out.

Omoplatā, *ab omos*, *ab ein* to sustain, *platys* large.

Trauma a wound, from *thrabin* to wound.

Cholagogon, *de chole* bile, *agin* to evacuate, so flegm ; blood, melancholy.

Colletica, glutinaters, a *collao glutino*.

Cephalica, from *cephalos caput*.

Cardiaca, from *caer*, cor.

Cathartica, from *catharin* to cleanse.

Phænigmi, from *phaninx*, a red color.

Psilothra, from *psiloin*, to take away hair.

Smegmata, from *smæo abstergo*.

Catheter, from *cata* within, *ein* to send.

Anthrax, from *ana* above, *thorein* to leap.

Phlyctæna, from *phlyzin* to boil.

Emphysema, *ab en* within, *physsain* to blow.

Azygos : *ab os* privative, *zygos* yoke.

Acrochordon, *ab acros* the end, *cordi* cord.

Anacatharsis, *ab ana* above, *cattaherin* to purge.

Empiria, *aben inter*, *pira* experience.

Emplastrum, *ab en* within, *pelayin* to approach.

Cretaphoi, a *ceras* a horn, *phyin* to grow, the horns in beasts grow there.

Malaëtics, from *malassin*, to mollifie.

Melancholy, a *melas* black, *chole* choler.

Oncos, a tumor, *aben* within, *echin* to contain.

V A D E M E C U M :

O R, A

Companion for a Chirurgion.

TH E Artift being armed with thefe and the like Inſtructions, let him be provided with an handsome Emplaſter Box, furniſhed with theſe Inſtruments following, always kept bright and ſharp, viz.

Incifion Knife,
 Sciffers,
Forcipes,
 Plain *Spathula,*
Spathula, or *Speculum*
Lingue,
 Single, and Screw
 Probe,

Uvula Spoon,
 Stitching Quill, with
 three Chirurgions
 Needles, of ſeveral
 ſizes,
Director, with *Specu-*
lum Oculi,
 Fleme.

Having always therein ſome *Emplaſtrum* *Diapalm. de Minio,* or ſuch like, ready ſpread upon Linen Cloth, with Lint, and *Thuraloes,* or ſuch like aſtringent Pouder.

B

The

2 *V A D E M E C U M: Or,*

The Lint is to make Plegets, and Tents, &c. of, and sometimes to stay a Flux of Bloud.

Pulvis Thurales is made of two parts of *Frankincense*, and one of *Aloes*, finely poudred; and when you have occasion to use it, mix so much of it with the white of an Egg, as will render it of the consistence of Honey; which with the softest hair of an Hare, apply upon Lint to the Vessels, or other part, and about the Wound, using fit Ligature. Likewise some catheretick, or corrosive Powder to eat away putrid or superfluous Flesh, which is made of burnt *Alumie*, Powder of *Mercury*, Precipitate, and such like.

Emplastr. Diacalciteos, or *de Minio*, or such like, is to be applied over all your other Medicines, to keep them firm to the part, where you cannot use convenient Ligature, &c. and sometimes when you can.

His *Salvatory* should be furnish'd with these Unguents following, *viz.*

<i>Basilicon Majus,</i>	<i>Linimentum Arcei,</i>
<i>Aegyptiacum</i> alone, or	<i>Ung. Album,</i>
mixt with <i>Basilicon,</i>	<i>Desiccativum Rubrum.</i>

Then let his Closet or Chest, in time of Peace or War, be furnished with such Instruments and Medicines, Simple and Compound,

as shall be hereafter mentioned ; where shall be set down the use of every particular Instrument, and Faculties of every Medicine, and Dose and manner of making and using.

But first of those in the *Plaster-Box* and *Salvatory*.

Certain Instructions concerning the use of the Instruments in the *Plaster-Box*.

And first of the Incision Knife.

THE use of this Instrument, is to cut the Skin or Flesh upon needful occasions, in paring away the putrid part of a Gangrenous Member, in making Fontanella's, or Issues, in opening Apostemes, in Scarifications, &c.

Let this Instrument be always kept clean and bright, by being rubb'd dry after it hath been used, and sharp as any Razor. Let the Artist ever hide it from the Patient's sight with a Cloth, and also all other sharp Instruments, for divers Reasons.

Of the ordinary Scissors.

THE Scissors be very useful to cut Cloth for Rolers, Lint, and Emplasters; to cut, and clip off loose Skin, putrid or superfluous Flesh, &c.

Of the Spathula.

THE Spathula is used to mingle your Unguents on your palm of your hand, to cover your Pledgets, &c.

Of the small Probes.

THE Probe cannot be missing in the Chirurgions Plaster-Box, for without it can nothing be done artificially. The use of it, is to arm the Eye with soft Lints, and with the other end to make probation of the depth of a Wound: sometime the small end armed with Lint, is dipped in some Oil, or Liquor, and conveyed into the bottom of an Ulcer, or Fistula, thereby to mundifie, or heal.

Of the Scrue-Probe.

IS as long again as an ordinary Probe, made to unsrue in the middle, and is used
where

where the small Probe is too short to make sufficient probation.

Of the Uvula Spoon.

THIS serveth to put Pepper, Salt, and fine Bole in, by putting it under the Uvula, or Palate of the Mouth, being fallen, and blowing the Poulder into the Cavity behind it thorough the hollow Pipe : It also serveth to warm a Medicine in, as Unguents, to dip in Tents when you want an ordinary Spoon; also to pour hot Oil or Liquor into a Wound, whereto I do constantly use it in green Wounds, as hereafter you shall find in the ensuing Discourse, of curing of Wounds.

Of the Stitching Quill and Needles.

THese are Instruments that cannot be missed in your Plaster-box; you shall therefore have in your Stitching Quill at least three Needles of several sizes or bigness, with square points, well set, and ready armed with green or red Silk oiled, your Needles always kept oiled, and clean from rust; in want of Silk, at any time upon necessity, you may use thread, rubbing it with some kind of Emplaster : You must also have in your said

6 *VADE MECUM: Or,*

stitching Quill a Taylor's Needle, or two, with thread, to sew your Rollers, and make them fast in the rolling of Wounds, Fractures, or Dislocations, &c.

Of the Director.

THE Director is an Instrument to guide and direct the Incision Knife, in Dilation, or enlarging a Wound, when you are near any Vessels. They are also used in cutting for the Stone.

Of the Forcipes.

THese are used to take off Emplasters, Pledgets, and Tents, to take out a spilt of a Bone, to hold up any piece of superfluous Flesh or Skin, thereby the better to cut it with the Scissers, or Incision Knife; to take out any thing that may chance into the Ear, Nostrils, Mouth, or Throat; to take out a Bullet lying within reach, or any thing that is offensive in a Wound; and is an Instrument of continual and very necessary use in Chirurgery.

Of the Spathula Linguae.

THE *Spathula Linguae*, or *Speculum Linguae*, is much like an ordinary *Spathula* at

at one end, only it is perforated and cut through, the better to hold the tongue down without slipping off; the other end is made to scrape the tongue that is furred in Fevers, Cankers, or other affects of the mouth; it is used to hold down the tongue when you inject any liquor into the throat, or apply any medicine to the mouth or throat, or when you would make inspection into the mouth or throat in any affects of the Uvula, or in Squinancies, Cankers, or Excoriations of the mouth or gums.

Of the Fleme.

IT is an Instrument used to open Gums, and separate them from the tooth you intend to pull out, compassing the tooth with the round sharp end thereof close to the tooth, piercing deeper by little and little, until you feel it as low as the jaw-bone: Some use to open a vein with this Instrument, but for mine own part, I do disallow it as very uncertain, and dangerous, for touching the Nerves, or great Vessels.

Next we must look into the *Salvatory*, to see what *Unguents* we have there, to declare the Composition of them, their Virtues and Uses. But first we must say somewhat of *Weights, Measures, and Scales*, used in Physick.

Weights, Measures, and Scales

AR E things upon which depend oftentimes the life or death of the Patient : let the Artist therefore be stored with several pair of Scales, for Pounds, Ounces, Drams, and Grains, with good even Beams, both them and the Pans kept clean scoured ; now because many having Scales and Weights, scarce have the true knowledge of them, I will therefore set down what kind of Weights we ordinarily use.

A Grain is the least Weight used in Physick, and is marked thus,—Gr.

Twenty Grains make a Scruple, marked thus,— \mathfrak{z} .

Three Scruples make a Dram, marked thus,— \mathfrak{z} .

Eight,

Eight Drams make an Ounce, marked thus,
— $\frac{3}{4}$.

So that there are as many Scruples in one Ounce, as there are Letters in the Alphabet, viz. 24. as the Poet *Fannius* testifies,

*Uncia fit drachmis bis quatuor unde putandum
Grammata dicta, quod hæc viginti quatuor in se
Uncia habet, tot enim formis vox Græca notatur,
Horis quot mundus peregit noctemque diemque.*

Twelve Ounces make a Pound, and is marked thus, — lb.

The half of any thing, thus, — ss.

The usual sorts of *Measures* used in Physick, are,

Coccleare, or a spoonful, which of Syrrups, &c. contains half an ounce, of distilled waters three drams.

Cyathus, which comprehends one Ounce and an half.

Congius, which comprehends eight Pound.

Manipulus, or handful, as much as the hand can comprehend, marked thus, — M.

Pugillus, as much as can be taken up with thumb and four fingers ends, thus, — P.

A Pint is one Pound, marked thus, — Pint.

Numero & Paria, so Fruit are measured, marked thus, — No. & Par.

Ana. is a like quantity that follows of two or more things before mentioned; or if no quantity follows, then the quantity must be equal, marked thus—*an.*

Partes aequales, equal Parts of all are to be taken, thus—*p. a.*

Quantum sufficit, thus—*Q. S.*

Quantum vis, thus—*Q. V.*

Quantum placet, thus—*Q. pl.*

All these are, when the Weight or Measure is left to the freedom of the Apothecary.

Secundum Artem, marked thus—*S. A.* is when the manner of Compounding is left to the Apothecary.

Stratum super Stratum, marked thus—*S.S.S.* is when two things are strew'd by turns one upon another.

Balneum Mariae, or *Maris*, marked thus—*B. M.* is when any thing is boiled or distilled in a vessel or Alembick, put into another Vessel full of boiling Water, and so kept boiling or distilling therein.

Now of *Unguents* in the Salvatory, but first we must premise something of *Unguents* and *Liniments* in general.

Unguents were for delicacy among the Ancients, in Greek *myra*; Now they are thicker than Liniments; the simple are made

made of Oil, Wax, Powders; to one Ounce of Oil, 3, or 3iſs of Powder, two drams of Wax, for hot ones: But in cold; drying, deterging, which consist of Minirals, as *Tutia*, *Minium*, *Plumbum*, half an Ounce, to an Ounce; unless they are corroding, as *Aerugo* ℥ii. *Chalcitis* ℥i. *Hydrargyr* ʒi. *Sublimat.* Gr. vi. *Sulphur vivum*. ʒi. *Arsenic.* Gr. ii. for ʒi. of Oil. Sometimes are added Juices, or Shop-ointments, to ʒiii. Powders ʒvi. Wax, Oil, q. s. in hot Weather more Wax than in cold; instead of Oil may be used *Butter*, *Grease*, *Mucilages*, *Marrow*, *Turpentine*; so for Wax, use *Rosin*, *Colophony*, *Pix*, the same Doses. Some are made without Fire or Wax, of Oils, Powders, Metals, and Juices, stirr'd in a Mortar, whence call'd *Nutrita*, to refrigerate, and for malignant Ulcers, commonly for ʒi. of Oil, half an Ounce of Powders; yet 'tis best to prescribe of Powders, q. s.

Now a Liniment in general is made of only Oil and Butter, or else may be added, Fats, Grease, Suet, Marrows, Mucilages, so that there be two or three parts of Oil to one of the rest. Sometimes to ʒi. of Oil is added ʒi. of proper Powders. Sometimes Wax, or some Shop Unguent, ʒi. of Wax to ʒi. of Oil, but equal parts of the Oil and Unguent; 'tis used to ease pain, to laxate the parts, to soften, digest inflammations, calesie, humect and resolve.

Nym.

Now in particular, and first of Basilicon.

B*asilicon* is an Unguent used almost in all kinds of Wounds, and Ulcers, either by its self, or mixed with other Unguents; for it hath the virtue to heat, humect, and mitigate pain: it digesteth and incarnateth Wounds and Ulcers, and suppurateth Apostemes, either hot or cold. It is likewise very fitly used with *Præcipitate*, *Egyptiacum*, or any corroding Medicine, making them work with more ease, and better mundifies: it is also good for Burnings and Scaldings, and is thus made:

℞. Yellow Wax, Pine Rosin, Ox-Suet, Greek, or Ship-pitch, Turpentine, Olibanum, Myrrh, of each of ℥i. Oil: ℥v: the rest being melted, sprinkle in the gums, boiling them to a fit body.

Liniment of Arcans.

THis *Arcans's* Liniment is a sovereign Balm, not to be sufficiently commended in all Wounds whatsoever, especially in those of the Head, where it doth merely of it self, all the intentions of healing, extraneous Bodies being first remov'd, and the Flux of Bloud

Bloud quite stay'd, for it digesteth, mundifieth, incarnateth, and cicatrizeth, it defendeth from accidents, and is very anodine: I have divers times applied it, mixed with other Unguents, to painful Ulcers, and Fistula's, with good success; it is made as followeth:

℞. Gum Elemi } of each ℥i.
Turpentine of the Firr tree } and half,
Rams Suet old and tryed, ℥ii.
Old Hogs fat tryed, ℥i.

Dissolve the Gum in Sack, and evaporate the Sack, then put in the Fats, and lastly the Terebinth, and mingle them well together.

Egyptiacum

DEterges and mundifies old, fordid, virulent and fistulous Ulcers; prevents great contused Wounds from Gangrenes, &c. is thus made:

℞. Verdigrease five parts, unskum'd Honey 14 parts, strong Vinegar seven parts. Boil the Vinegar and Honey a little, then add the Verdigrease, and boil it over a gentle Fire, to a just thickness and red color, *S. A.* some add Alume one part.

Instead of *Unguent. Apostolorum*, to cleanse and scout foul Ulcers, to make good ground for

for healing, and abate spungy flesh, use always *Mundificativum ex Apio.* or *Aegyptiac.* or *Ung. Basilic.* two parts, and one of *Aegyptiac.* or *p.a.* as you see cause, you will find it cleanses better.

Mundificativum ex Apio.

Rx The juice of Smalage ℥ i. honey ℥ ix. Wheat-flower ℥ iii. boil them till they come to the thickness of an Unguent S.A.

Unguentum Album Camphoratum

IS good to cool and heal any hot moist Pustles; it cureth Excoriations of the Skin in any place, but chiefly in the Yard, betwixt *glans* and *præputium*; it also healeth burnings and scaldings very well, and is good to be applied to any painful Ulcer, for it assuageth pain, and healeth well: it is cold, and anodine, is made as followeth:

Of unripe Oil of Roses ℥ ix.

Ceruse washed in Rose-water, and finely poudred, ℥ iii.

White-wax ℥ ii.

First melt the Wax in Oil; then in the Ceruse, and if you will have it with Camphore, then add to this proportion of Camphore ℥ ii. poudred with a few drops of Oil of Sweet Almonds.

Instead

Instead of *Unguent. Diapompholigos* in painful Ulcers in any part of the Body, especially of the Yard, or betwixt *glans* and *preputium*, you will find any of these, *ung. alb. popaln. rosat. desiccant. rub. nutrit. &c.* alone, or ingeniously mixt, to be far better.

Desiccativum Rubrum

IS used to cicatrize Ulcers, either by its self, or mixed with *Ung. Rosat.* it is thus made :

Oil of Roses Omphacine, 1 lb. and an half.

White Wax, 3 v.

Melt them together, and put them into a leaden Mortar, and sprinkle into them

Earth of *Lemnos*, or Bole Armenia } of each
Lapis Calaminaris finely beaten } 3 iv.

Litharge of Gold } of each 3 iii.
Cerule

Camphire 3 i.

Work them all very well together in the Mortar, to the form of an Unguent.

These are for the *Salvatory* : Next I shall shew you the making of *Emplasters*, with their uses, and then take the rest in order.

But

But first of Emplaſters in general.

E*mplaſtrum* was written by the ancient Greeks without an *r*, but the modern, and after them the Latins, with an *r*, from *Emplattein*, ſays *Heurnius*, i. e. *ſingendo, formando*, 'tis thicker than an Unguent or Cerat, made of the ſame things, as of Plants, Minerals, Earth, Aſhes, Excrements, and all parts of Animals. Some to ℥iii. of Oil, add ℥i. of Pouders, and one of Wax. In lieu of Wax, ſometimes is put *Labdanum, Propolis Pix*. Sometimes Gums are added to ℥vi. *Lytharg. Ceruſe*, then you muſt augment the quantity of oil; but if you add *axungia, terebinth*, or any liquid *lacrym*, you muſt diminith your oil; firſt melt the Wax in the oil, if you add *Lytharge, Juices*, or *Mucilages*, boil them together till they be waſted, then mix in your Fats, Roſins, Gums, either pure or diſſolved in proper liquor, as Wine, Brandy, Vinegar, or proper juices; when they are all almoſt boiled enough, ſprinkle in your Pouders, ſtirring them very well with a *Spathula*, till they come to be a fit maſs; when they are almoſt cold, put in your Saffron, Muſk, Amber, and ſuch things as will not endure boiling; you may know when 'tis boil'd enough, if putting a little upon a Stone, or into the Water

to

to cool, it will not stick to your fingers. Spread it upon leather oval, or in the form of a T, for the head, and so in form answerable to other parts, or four-square for the reins, &c.

Now of Emplasters in particular, and first of Stipticum Paracelsi. And here

Quid dignum tanto ferat hic promissor hiatu?

'TIS a Wonder to see how this Plaster is extol'd by the Author, and what strange, idle things are promised to be perform'd by it, when they're nothing but clouds without rain; in short you have *Oxycroceum Diachyl. mag. cum Gum.* and others as good to all intents; however the making of it is as followeth:

Rx. Oil of Olives ℥vi. yellow Wax ℥℥. Litharg. of Gold sears'd ℥iiii℥. Ammoniac. Bdellium an. ℥℥. Galbanum, Opopanax, Oil of Bays, Lap. Calaminar. Aristolochia long. & rotund. Myrrhe, Thus, an. ℥ii: clear Turpentine ℥i. Boil the Oil and Litharge together, stirring them continually with a wooden *Spathula*, till they will not stick to your fingers; then taking them from the Fire, melt in the Wax, presently after put in the Turpentine and Gums mixt before, lastly the Pouders, and when all begin to cool, the *Thus*, and at length the Oil of Bays, then you make an *Emp. f. a.* *Diacal.*

Diacalcithea, or Diapalma,

IS an Emplaster that mitigateth pain, and is a good defensive against all venomous Humours, and is used last in Wounds, and Ulcers, to induce a Cicatrice, which it is very good for; also it hath a very good quality to assuage the pain in the small of the back, proceeding from distempered kidneys coming of a hot cause, as well concerning the Stone and Gravel, as in the Gonorrhœa: and dissolved or relented with Oil of Roses, or Elders, or of Linseed; it is a very good Medicine to heal Burnings and Scaldings.

I do use it in Fractures after the first opening, covering the member at least two hands breadth upon the Fracture, with the Emplaster spread upon Cloth; and in great Inflammations in Summer-time, I dissolve it in Oil of Roses, and so apply it to the Fracture: it is thus made:

℞ Hogs fat fresh and old, and cleansed from the Skins, ℥ ii.

Old Oil, Scum of Silver, beat and searced, of each ℥ iii.

White Vitriol burnt and poulder'd, 4 ʒ.

The Litharge, fat and oil must be boil'd together over a gentle Fire, (with a little Plantan

Plantan water) almost to the consistence of
an Emplaster, continually stirring them; then
taking it from the Fire, put in the Vitriol.

Emplastrum Griseum, or of Lapis Calaminaris.

THIS Emplaster I do commonly use in
healing Ulcers, which are hard to be ci-
catrized; and it is marvelous good in curing
Buboes, as well venereal and pestilential, as
common: it is also the most incarnative of
any Emplaster that is in use. The composi-
tion is after this manner :

Rx. Lapis Calamin. prepared,	1 ounce.
Litharge	2 ounces.
Ceruse	half an ounce.
Tutty	1 dram.
Turpentine	6 drams.
White wax	1 3 and half.
Harts-suet	2 ounces.
Choice Frankincense	5 drams.
Mastich	3 drams.
Myrrhe	2 drams.
Camphor	1 3 and half.

Let the Terebinth, Wax and Suet be mix-
ed together, then a little after cast in *Thus*,
Myrrhe and *Mastich* powder'd; to which well
mixt, let the Pouders of *Cap. Cal. Lith.*
Ceruse,

Ceruse, Tutia, be added; lastly, these being not cold, put in your Camphor, dissolv'd in a little Spirit of Wine.

Of the Melilot Emplaster.

THIS Emplaster is good in green Wounds, for it draweth, and healeth well; also it attracteth and bringeth forward a cold Aposteme, and is made of the juice of Melilot, Camomile, and Wormwood, with Rosin, Turpentine and Wax, and is an especial secret, and the best, and oneliest thing I ever knew in curing kided heels, and chilblanes, either broken, or before they are broken; I do use it often upon Gun-shot wounds, to keep the Orifice open, and to warm and comfort the parts.

Of Diachylon Simplex.

THIS Emplaster is very good to dissolve schirrous Tumors of the Liver, Spleen, Reins, Belly, or elsewhere, as the composition will shew, being all of mollifying and discussing Ingredients; it serveth generally for hot or cold causes, but chiefly for hot. It is much used to Womens breasts in Childbed, when they desire to dry up their milk, being spread upon linen Cloth, and applied over all the breast,

breast, and towards the arme-pit. It is thus compounded :

R. The Mucilage of Fœnugreek-seed, Linseed, and Marshmallow roots, of each one pound.

Clear old Oil, three pounds.

Litharge one pound and an half.

The way to have the quantity prescrib'd of mucilages is this :

R. Of each three ounces, of common water ℥ vi.

Let the Litharge be finely beaten, and put to the Oil, and boiled with a gentle Fire, stirring it well with a *Spathula*, until they grow thick as Honey ; take them from the Fire, and let them cool a while, then pour into the Pan your mucilages, and mingle them well, and boil them to an Emplaster of good consistence.

Diachylum Iriatum is made by adding ℥i. of *Oris* roots to ℥i. of the simple Plaster.

Diachylon magnum, and with Gums.

THis *Diachylon* dissolveth, maturateth, and mollifieth hardnesses, and is principally good in Apostemes, and is compounded after this manner :

R. Litharge of Gold finely searced, one pound. Oils

Oils of Ireos, Dil, Camomile, of each eight ounces.

The mucilages of Marshmallow roots, of Linseed, and Fœnugreek-seed, Raisons, Fat, Figs, Birdlime, Juice of Ireos, and Sea onion, Oesypus, or Oil of Sheeps-feet, of each 12 drams and a half.

Turpentine, three ounces.

Rosin of the Pine, yellow Wax, of each two ounces.

Let the Litharge, being finely poudred, and stirred a long time with the Oil, be boiled over a gentle Fire, continually moving till they wax thick; then taking the Pan from the Fire, when it grows cold, add the Mucilages, being first boil'd in the Oils, and strained, and boil them softly, to the evaporating the superfluous moisture; after add the Birdlime and Oesyp dissolv'd in the juices of Oris and Squils, and let the juices be wasted; in all which, yet hot, melt your Rosin and Wax, a little after taken from the Fire add Terebinth, moving all diligently, that the whole mixture be of a fit consistence for a Plaster; then

Rx Bdelium, Sagapenum, Ammoniacum of each two ounces.

Dissolve the Gums in Wine, strain them, and boil them to the thickness of Honey, and put them to the aforesaid mass of Emplaster:
and

and so you have *Diachylon magnum cum gummi.*

Emplastrum Oxycroceum

IS anodine, attracting, mollifying, and comforting; assuageth pains of the Gout, proceeding of a cold cause, and is good in cold Aches; and by the attracting virtue it hath, it draweth out vapors *per poros cutis*, or the sweat vents in the skin, wherby it often unladeth the Body of vicious and naughty humors, which otherwise might endanger the Patient. It is thus made:

R. Saffron, two ounces and an half.

Ship-pitch, Colophony, yellow Wax, of each four ounces.

Turpentine, Galbanum, Ammoniacum, Myrrhe, Olibanum, Mastich, of each one ounce and three drams.

To the melted Wax, add the Pitch purg'd from filth, and strain'd, the Coloph. with these taken from the Fire, and a little cool'd, mix your Galbanum and Ammoniacum dissolv'd apart in Vinegar, strain'd and boil'd to the consumption of the Vinegar, and mixed with Terebinth; then sprinkle in *Thur*, *Mastich*, *Myrrhe*, finely powder'd apart; lastly Saffron most rarely powder'd, stirring all well. *F. Empl. S. A.* Some omit the Saffron.

Emplastrum

Emplastrum de Minio.

THIS red lead Plaster discusseth humors, assuageth pains, mollifieth, repelleth; and is commonly used upon Wounds and Ulcers, to further good healing, and induce a cicatrize; it is used in bruised and wrenched joints; if you use Mr. Gale's composition which I have made use of several times; and also both to mundifie, incarnate and cicatrize.

The composition of the ordinary *Minium*-Plaster sold in shops, is as followeth:

℞. Red Lead, nine ounces.

Oil of Roses, one pound and an half.

White-wine Vinegar, six ounces.

Boil them to the just consistence of an Emplaster; let your red Lead be beaten, and sared very fine; boil your Oil and Vinegar together till half the Vinegar be wasted, then put in your *Minium*, and boil it till the Vinegar be quite consumed, and the Plaster look blackish.

It is also prepared without Vinegar, in this manner:

℞. Red Lead, one pound.

Oil of Roses, one pound and an half.

Yellow Wax, four ounces.

First put your Oil on the Fire with your *Minium* finely poudred, boiling it with stirring

ring until the colour change to blackish; then slice in wax, and boil it to the just consistence, or you may omit the wax.

If you have *Oxyrocenum*, there's no need of *Ceroneum*.

Emplastrum ad Herniam.

IT's Name shews it's good against Ruptures, Abortion, Tooth ach laid to the Tempils.

Rx. Galls, Cypress Nuts, the Barks and Flowers of Pomegranates, Acacia, Seeds of Plantan, Fleawort, Watercresses, Acorn Cups, dried Beans, long and round Birthwort, Myrtles, of each \mathfrak{z} ss. Let all these be pulveriz'd, and macerated for four days in Rose Vinegar; then let them be well dry'd: After *Rx.* of great and little Comfrey, Horsetail, Woad, Ceterach, Roots of Royal Osmund, an. \mathfrak{z} i. Thuris, Myrrhe, Aloes, Mastich, Mummy, an. \mathfrak{z} ii. Bole Armeny wash'd in Vinegar, prepar'd Lapis Calaminaris, Lybarge of Gold, Sang. Dracon. an. \mathfrak{z} iii. Ship Pitch \mathfrak{H} ii. Terebinth. \mathfrak{z} vi. or q. s. F. *Emplastrum s. a.*

Emplastrum de Ranis cum Mercurio.

IS the best in the World against Pains in *Lue Venerea*; 'twas invented by *Vigo*, is had at the Apothecaries, duple, triple, or quadruplicate with Mercury.

Emplastrum Diasulphuris.

THis *Emplastrum Diasulphuris* is most excellent in the Cure of all Ulcers, of what sort soever, and is made as followeth:

Rx. Oil of Brimstone ℥ iii. Wax ℔ ℞. Colophony ℥ iii. Myrrhe, as much in weight as all the rest. Melt the Wax and Colophony in the Oil, and mix them well, then sprinkle in your Myrrhe finely powdered, and boil them with a gentle fire, ever stirring it with a Spathula until they are well mingled, then take it from the fire, and make it up.

Sir Philip Paris his Emplaster.

THis Emplaster is excellent for divers things; if you lay it upon the stomach, it provoketh appetite, and taketh any grief from the same; laid to the belly, it easeth the Collick speedily; laid to the Reins, it stopeth the bloody flux, running of the Reins, heat,

heat of the kidneys, and weakness of the back ; it healeth swellings, aches, bruises ; it breaketh fellons and apostemes, and healeth them ; it draweth out humors without breaking the skin ; it healeth the diseases of the Fundament : laid upon the head, it helpeth the head-ach, uvula, and eyes : laid to the belly, it provoketh the months, and openeth the matrice for conception. The composition is as followeth :

Rx. Common Oil ℥ ii. Red Lead, Ceruse, of each ℥ i. beaten small. Castle-soap ℥ xii. Incorporate these well together in an earthen Pan well glased, before you put them to boil ; then put them upon a gentle fire of coals, ever stirring it with a Spathula, then increase your fire till the red turn grayish, continuing your stirring ; drop a little upon a trencher, if it cleave not thereto, then it is enough ; dip linnen cloaths therein, and smooth them with a sleek stone, the rest make up in rolls ; it will last twenty years.

ACerat,

SO call'd from Wax it is made of, is harder than an Ointment, and softer than an Emplaster : 'tis made by adding Wax ℥ ii. proper Powders ℥ ii. to ℥ i. of Oil, or other things analogous ; or 'tis made of Unguents

28 *VADE MECUM*: Or,
in the shops, by adding to ℥ii. of the Un-
guent, 3 vi. of Wax, or q. f.

Sparadrap,

IS a barbarous word, 'tis made by dipping
a Cloth into any Plaster that hath ac-
quir'd its due coction; 'tis commonly cal'd,
Tela Galteri. The Learned Sir George Ent's,
and best for Issues, is thus made :

*Rx. Yellow Wax ℥ss. Terebinth. Minii an.
℥iv. Cinnabar, Oris Root an. ℥i. mosch. gr. 4.
Melt your Terebinth and Wax together, then add
the Pouders made up with a little common Oil,
that they may be the easier mix; among which,
let the Cinnabar and Minium be finely powdered;
stir them a great while very well, then add the
Mosch dissolv'd in aq. ros. while they are yet
hot, dip in a cloth a little worn, ut F. Spara-
drap.*

*Cerats and Sparadraps are made for the
same use as Emplasters, viz. to calesie, hu-
meet astringe, &c.*

Of the Oyntments the Chirurgion is always to have in readiness in his *Salvatory*, we have spoken before ; Now we come to treat of those he is to have always in his Closet ready prepar'd.

Unguentum Populneum,

Serveth well to assuage the pains of the Scurvy, by anointing the parts grieved therewith ; it assuageth pain in any part of the body, and it easeth the dolor of a caustick medicine, by being applied cold upon a Pleget to the place grieved : it procures sleep in Fevers, if you anoint the Tempils, palms of the Hands, Wrists, therewith : anoint the back it stops a Gonorrhœa, and is made as followeth :

Rx. Fresh Buds of black Poplars ℥ iſs. Violet leaves, and of Wall Navelwort an ℥ iiii. Hogs Grease unsalted, and clean from skins, and washt ℥ ii. These being all bruised, mixt and macerated together in May; add the tender tops of brambles, the leaves of black Poppy, Mandrake,

drake, or the leaves and berries of Mountain Elder, Henbane, Night-shade, Letice, greater and lesser Houfeleck, the greater Burdock an. \mathfrak{z} iii. being all bruised and mixt, and pouring \mathfrak{lb} i. of Rose-water upon them ten days after, boil them with a gentle fire, continually stirring them with a Spathula, till all the superfluous humidity be wasted, then press them and strain them, & F. Ung. s. a.

Unguentum Dialthea,

IS good against all pains of the breast, of a cold cause, and against the Pleurisie; it warmeth, mollifieth, and comforteth all the parts of the body which are evil disposed through cold infirmities; it is good against stiffness, and pains in the joints in the Scurvy; it is good for cut Nerves, pains in the sides, and hardness of the Sinews, and is resolute: and is thus made:

Rx. Fresh Roots of Marshmallows washed and bruised \mathfrak{lb} ii. Seeds of Line, and Fœnugreek, an \mathfrak{lb} i. macerate them three days in \mathfrak{lb} viii. of water; then boil them gently, and expresse the Mucilage, of which take \mathfrak{lb} ii. common oil \mathfrak{lb} iii. Boil them together, till the watry part of the Mucilage be wasted, then add yellow Wax \mathfrak{lb} i. Rosin \mathfrak{lb} β , Turpentine \mathfrak{z} ii. boil them to the consistence of an Unguent. Un-

Unguentum Nicociana,

R. Tabaco leaves ℥ii. Pork grease, well wash'd, ℥i. bruise them in a Marble Mortar, and add red Wine ℥iii. macerate them a whole night; then boil them with a gentle fire, continually stirring them till the Wine be wasted; to the straining, put on the fire, add the clarified juice of Tabaco ℥i. Terebinth, Venet. ℥iv. boil till the juice be evaporated, then add Roots of round Birth-worth powdered, ℥ii. yellow Wax, q. s. F. Unguent. s. a.

Jonbertus a learned Phisitian of *Montpelier* invented this, and needed not any of *Nich. Culpepper's* praises; in curing cold Tumors, Wounds, Ulcers, Botches, Scabs, Itch, with *Flos sulphuris &c.* Scalds, Worms, Lice Hemorrhoids, or Piles, and Gouts of all sorts, &c.

Unguentum Martiatum,

IS good for many griefs: for it discasseth cold causes in the Head, Sinews and Joints; it removeth pain from the Breast & Stomach, proceeding from cold; it prevaieth against Convulsions; it helpeth resolution of the Sinews, dead Palsie, and the hip-gout, the gout in the Hands or Feet, and other joints of the Body; it mollifieth hard Pustles and Tu-

mors in the flesh ; it assuageth the hard swellings of the Liver and Spleen, easeth the pain in the small Guts, and cureth the ach in the Reins, and is chiefly used in Dropsies, and affects of the Spleen : and is thus made :

R. Bayleaves fresh ℥ iii. Garden Rue ℥ iiss. Majoran. ℥ ii. Menth. ℥ i. Salvia, Absinth. Balsamita, Bazil, an. ℥ ss. Ol. Olivar. ℥ xx. Yellow Wax ℥ iiii. Malago Wine ℥ ii. shred your herbs, and infuse them seven days in the Oil and Wine ; the eighth day, boil them to the consumption of the Wine ; cool them, and strain it, then dissolve your wax over the fire ; & F. Ung. s. a.

Unguentum Neapolitanum,

IS used for the Cure of the *Lues Venerea*, the manner you shall have in the Tract of the disease ; it cures Itch, Scabs, and Leprosie ; and is thus made :

R. Hogs Grease wash'd with juice of Sage, ℥ i. Quicksilver strain'd through leather ℥ iiii. Oil of Bayes, Chamomil, Worms, an. ℥ i. of Spike ℥ iiss. Brandy ℥ i. yellow Wax ℥ ii. Terebinth, wash'd in Succo Enulæ ℥ iiii. Powders of ground Pine, Sage an. ℥ ii. warm the Grease with the juice of Sage, till the juice be dissipated,

ted, mixing therewith the Oils of Camomil, Worms, Spike and wax; stir them with a Spathula till the Wax be well mixt, then taking them from the fire, add the Ol. Laurin. In the meantime let the Mercury, extinct with part of the Grease and Terebinth, be accurately stir'd in a Mortar; after mix all together by moving them well, then add the Powders and Brandy, and stirring much again, F. Ung. ex atre.

Unguentum Rosatum.

IS good to allay the heat of Phlegmons, and Erysipela's, Excoriations, easeth hot pains of the head, from heat of the stomach and liver; and is thus made:

Rx. Fresh Porks Grease well wash'd, fresh red Rose leaves an. ℥i. let them be macerated seven days, then boil them over a gentle fire, and strain them, then with the like mixture of fresh Roses bruised, let them be macerated as many days, then boil them and strain them as before; at length pour on ℥vi. of the juice of red Roses, oil of sweet Almonds ℥ii. boil them with a mild fire, to the absorption of the juice; strain it, and make an Unguent s. a.

Unguentum Tutie,

IS a good dryer, and is used in distillation of the Eyes, and is astringent, cooling, stopping, for sore Eyes mix it with *Diapompholigos*; it is thus made:

Rx. Tutty stone prepared ℥ ii. Calaminaris stone, often burned, and quenched in plantain water ℥ i. and with Ung. Rosat. ℥ i. ℞. F. Ung. f. a.

Unguentum Nervinum,

Cures cold Diseases of the Nerves, and all other parts of the Body; anoint the Sutures, nape of the Neck, and back Bone, the stomach and soles of the Feet likewise:

Rx. Cowslips and the Flowers, Sage, Chame-pytis, Rosemary, Lavender, Bays, and their Berries, Camomil, Rue, Smallage, Melilote with its flowers, Wormwood, an Mj. Mints, Betony, Pennyroyal, Persly; Centaury the less, St. Johnswort, an. Mss. Oil of Sheeps, or Bullocks Feet, ℥ v. Oil of Spike, ℥ ss. Sheep, or Bullocks Suet, or the Marrow of either, ℥ ii. the Herbs being bruised and boiled with the oil and Suet, make an Ointment. S. A.

Unguen-

Unguentum Nutritium, or Tripharmacum,

IS used in curing *Erisipelas*, excoriations or bladders of the skin, and such as are called the shringles. It is good to take out the fire in burnings and scaldings, and it hindreth the falling down of any moist humor to Ulcers in any part of the body, being spread upon cap-paper thin, and laid over the whole distempered part; also against any slight scabiness, or itching humor, whencesoever it is: The Composition is as followeth:

Rx. Litharge of Gold, searced very fine, ℥ss. Oil of Roses ℥i. Wine-vinegar, ℥iv. put the Litharge into a mortar, pour into it now a little Oil, then a little Vinegar working them up and down very well, until the Litharge hath drunk up all the liquor, and come to the consistence of an Ointment, and white.

These are Unguents very necessary for a Chirurgion to have continually in store; for with these he may be able, through his own practice, to dress any Wound, Tumor, Ulcer, Fracture, or Dislocation, if he be ingenious, from the first to the last. Next we will look what Oils are fitting to be had, and those I conceive may be such as follow: But first to premise something of Oils in general.

Of Oils in general.

ALL sublunary things living are governed by a certain natural heat, and radical moisture, familiar to, and proper for them, which is aerous, fat, and substantific, which may either naturally or artificially be separated from its matter, whether it be Plant, Mineral, Animal, or its Excrement; according as each partakes thereof, more or less. And this is apparent to the eye, for there is scarce found any body, which cast into the fire, will not produce some flame, a certain sign of an aerous, fat and substantial humor, which being separated from its matter, we call *Oil*. So that from hence we may see, that Oils are Natural, or Artificial.

Natural is made by the heat of the Sun, drawing from within outwards; or by that which is included in the bowels of the earth: For an Example of the Sun, *Elaomeli*, according to *Dioscorides*, comes out of the branches of certain Trees, which grow in the Territory of *Palmyre*, a City in *Syria*. *Balsameum* or *Opobalsamum* comes from other Trees, which grow in *Judea*, and now in *Egypt*, and *Grand Cairo*.

For an Example of Oils which come naturally from heat enclos'd in the bowels of the

the

the Earth, I shall mention *Ol. Petroleum*, which comes naturally from certain Rocks in *Italy*, whence it takes it's name; of these I shall not make any longer discourse, but of those only which are prepar'd by the Art of the Apothecary, the Physician ordering.

Artificial Oils are either simple or mixt: the first is made by expression, or distillation; by express, juice of Fruits, Berries, Oleaginous Seeds, which are bruised and pressed till Oil flows from them, and so are made Oil of Nuts, Olives, Almonds, &c. by distillation Oil is drawn, by the heat of the fire, from Woods, Roots, Gums, Rosins, Seeds dryed, as Juniper & Tartar, Tyles, &c. The Compound is made of simple Oil, wherein herbs and other things are infused, or boil'd, till the vertue of the Simples are almost exhausted, then 'tis to be press'd and kept for use. To refrigerate, we use Oil made of unripe Olives, before they begin to change their color, call'd by the Greeks and Latines *Omphacinum*, and *Omotribes*, i. e. crude and astringent, but to calesie, *commune Ol.* i. e. made of ripe Olives press'd, the stones taken away; to this of Oil, take $\frac{3}{4}$ of Herbs, &c. Flowers are to be insolated, for they will not bear coction. If you boil your Oil, you must add the fourth part of some proper juice, of Wine or Brandy, and the Liquor must be all wash-
ed,

ed, and then a drop thrown into the Fire, will flame without noise, when 'tis almost cold press it.

A Compound Distillation is called *Balsamum*, because 'tis supposed to supply the virtues of the natural. Now natural *Balsam* penetrates, dries, and preserves Bodies from putrefaction, therefore we choose Simples that resist Poison for the composition of the artificial, as Myrrhe, Aloe, Thus, wherewith the *Egyptians* did formerly keep dead Bodies: to which add *Mel*, *Terebinth*, Gum of Ivy, Brandy, *Galbanum*, *Styrax*, Lig. Aloes, *Galanga*, *Nutmeg*, *Cloves*, *Mace*, &c. first comes out a water, which drunk is very good for cold diseases, then a yellowish Oil, which wonderfully penetrates, chiefly proper for cold diseases of the Nerves; lastly, a very red, thick Oil, more effectual.

Of Oils in particular, and first of Oil of Roses,

IS anodine, and doth refrigerate and corroborate, and therefore is good against hot Diseases, as *Erysipela's*, &c. and is thus made:

Rx. Oil of unripe Olives wash'd, ℥ i. in the which you shall infuse ℥iv. of unripe red Roses, stamped in a wooden Mortar; and, in a glass Vef-

Vessel, and set them a week in the Sun, shaking them; then boil them a little in Balneo, and strain them, and add as many Roses, as you did to the former, shaking them every day; do thus three several times, and then set them up so, or strain them out, which you will. This is called *Ol. Rosatum Omphacinum*.

Now there is another made of ripe red Roses, and ripe sweet Oil, often wash'd, after the same manner, only the third insolation must be continued forty days, that done, keep the Oil with the Roses without expression; and this is called *Ol. Rosaceum completum*.

Oil of Dill,

IS anodine and comforting, it concocteth crude Tumors, causeth sleep, mitigateth the head-ach, refresheth the wearied Members, strengthneth the Sinews, discusseth Wind, is profitable for Convulsions, and assuageth aches, easeth pains, and hath many other good uses; and is thus made:

Rx. Oil of Olive, complete ℥ i. Flowers and Leaves of Dill ℥ iv. make three several infusions, as you did your Roses; to the last infusion, you must put ℥ iv. of the juice of Dill, and boil the Oil gently, until the juice be consumed.

Oil

Oil of Camomile,

Resolveth moderately, and calefieth, is good for the Colick, Stone, Weariness, and for Aches, is also very convenient in Clysters, for all gripings and torsions of the Guts, and yieldeth great comfort to the Intrails, by the good odor and warmth thereof. It is made by infusion forty days, with the Flowers and Oil Olive complete, as in Oil of Roses.

Oil of Worms.

Helpeth the aches of the joints in any part of the Body, and doth strengthen and comfort well the Sinews weakned and pained; and is good against Convulsions Palies and Cramps; and is also a good balm for wounded Sinews; and is made as followeth:

Rx. Earth-worms ℥℥. wash'd in water often changed, then in Whitewine, in which let them be macerated the space of an hour; then casting away the Wine, put the Worms into a double Vessel, pouring upon them ℥ii. of Oil Olive, White-wine ℥℥. Boil them in a glased Vessel, until the Wine be consumed, then strain it through a linnen cloth, and put it up.

Oil

Oil of Lillies,

A Ssuageth pain, mollifieth hard Tumors, doth much mitigate the violence of Diseases, and is very effectual against pains of the Breast and Stomach, and allayeth all the inordinatness of the Reins and Bladder, and is good, with other unctions things, to anoint the lower parts of Women in Travail; it is made as Oil of Roses.

Oleum Excestrense.

M Ay serve in lieu of all hot Oils, and is good to anoint the Limbs of such as are lame, by reason of some cold, bruise, sprain, &c. and is thus made:

*Rx. These herbs, viz. Wormwood, Centaury, Maudlin, Fenel, Hissop, Bays, Majoran, Balm, Penyroial, Sabin, Sage, Thyme, an. ℥iv. Southern-wood, Bctony, Ground Ivy, Lavender, an. ℥vi. Rorismar. ℔ i. Flor. Chamomel, Broom, Lillies, Elder, Cumin, and Fenel-seed, black and white Ellebor roots, the bark of Ash and Limons an. ℥iv. Euphorb, Mustard seed, Castor, Pelletory, an. ℥i. Oil ℔ xvi. Wine ℔ iii. the Herbs, Flowers, Seeds, and Euphorb. being bruised, the Roots, Barks and Castor cut small,
and*

and macerated a whole day in a warm Bath, in the Wine and Oil, and then boil'd over a gentle Fire, till the Wine and moisture be wasted, strain the Oil, and keep it for use.

Oil of Violets.

Cools, is anodine, &c. is made as Oil of Roses Omphacine.

Oleum Nymphae.

Cools more than Violets, provokes sleep, tempers the heat of the Reins and Liver, helps the pain of the head.

Note that Oils are easily incensed, so that if you use cooling ones, you must repeat them often; if you wash them in Spring-water, they will be the cooler.

Oil of Fox,

IS good for pain in the joints, Gout, Sciatica, and cureth the ach of the kidneys and back; it is compounded after this manner:

Rx. The fattest Fox you can get, of a middle age, and well hunted, and newley kill'd in Autumn, garbish him quickly, slay him, cut him in
small

small pieces, and break all his bones well, then boil him in White-wine and Spring-water, an. ℥vi. scumming it well with salt water ℥iii. the tops of Dil, Thyme, Chamepityos, an. M. i. then strain them hard, and boil the same with ℥iv. of old Oil, flowers of Sage and Rosemary an. M. i. then the wine and waterish moisture being wasted, strain them hot with a Press; lastly, keep the Oil, separated from the aquosity, for use.

Oil of Ambar, is of so great virtue, that it hath been called Oleum Sacrum & Benedictum.

IT's made by distillation, and is very good for the pain of the head, resolution of the sinews, and Falling-evil; if one drop or two be taken with water of Betony or Lavender, or in fair water, it preserveth from Poyson; and mixed with Parsley-water, or Malmesey, it is a singular remedy in discussing diseases of the Reins and Blader, bringing forth the Stone, and opening the passage of the Urine; it profiteth in the Colick and Strangulion; four drops put into a little Angelica-water, and so given to a Woman in travel, refresheth all the weak faculties of the body; confirmeth and openeth the brain; and is extolled by *Crollius*, for the admirablest medicine in the Apoplexy and Epilepsie: also for the Plague, if one drop be rubbed

bed on the nostrils morning and evening, it preserveth the party; to one infected, it is given in Carduus-water. In the Fit of any of the aforefaid diseases, it is good to anoint the nape of the neck, back-bone and nostrils; or to cast a drop or two upon the coals, and anoint the Patient's head over them: If you anoint a few drops of it upon the breasts and nostrils of Women affected with the disease of the Mother, it helpeth it, and keepeth it in his place; it is available in fainting, or the passion of the heart; in Agues three or four drops being taken in Carduus-water, at the coming of the Fit, and so sweat upon it, and the Ague will be gone: It is good to dry a catarrhus rheum: It cures the Tooth-ach proceeding from cold defluxions, if you mingle it with Plantan-water, and gargarize it. In the Yellow Jaundise, given with water of Endive, Cichory or Selandine; in retention of Women's months, seven or eight drops in Balm-water helpeth; in vomition of Bloud, three drops given in Colt's-foot-water, Tormentil-water, or water of Sloes, it stayeth it: It cures the Vertigo in the head, the Megrim, and Astonishness; taken in Fennel-water, it menderth the sight, and it helpeth the stitch in the side, and is thus made:

℞. Yel-

Rx. Yellow Ambar one part, powder of Flints calcin'd, or powder of Tyles two parts, mix them, and put them into a Retort, and distill them in sand; keep the white Oil which extills first apart, continuing still the distillation, as long as any Oil will drop, afterwards let both be rectified apart, with a sufficient quantity of water,

Oil of Nutmegs,

DRunk with wine, driveth down women's months, and also the quick and dead fruit; the same it doth if it be given in a spoon with a little sugar; being taken with Wine, it takes away all pains of the head coming of cold; it comforts the Maw, and opens the Liver, Milt and Kidneys; it is excellent against beating of the heart, and faintness and swooning, if ye drink thereof, and anoint the region of the heart therewith; it makes good blood, and expelleth flegmatick and melancholick humours, and makes a man merry; being used at Night, it takes away all fancies and dreams: If any had a wound or a broken rib by a fall or stroke, let him drink this Oil with any wound-drink, and it will help marvellously; it is good in all filthy sores, and for all cold diseases of the joints
and

and sinews; it makes sweet breath; it helps the Spleen, if the left side be anointed; it helps all affects of the bladder, if it be drunk; and is thus made:

Rx Nutmegs bruised ℥ v. Spring water ℔ L. macerate them the space of four and twenty hours, then distill them in a large Limbeck with a cooler.

Oil of St. John's Wort compounded.

IS an admirable balm for wounds, being used as hot as it can be endured, and at the first dressing hotter: it is a sure medicine for all venomous wounds, all bitings of mad Dogs, or of venomous Worms, very hot applied, and the parts about anointed therewith warm, and a good Cordial given inwardly. It is good in wounds either incised, contused, or stabbed, and is indeed so excellent, that you need use no other Oil. It is a comfortable medicine against all pains, aches and witherings of the outward Limbs, proceeding of cold causes, using it warm with good friction, and a plaster of Burgundy pitch spread on leather, and applied thereon, or rather the stiptick plaster of *Paracelsus*, or such like; the Composition is as followeth:

Rx. Strong

R. Strong White-wine ℥ iii. seeds and flowers of St. John's wort four handfuls, bruise them, and macerate them in a glass vessel well stopped for three days, then boil 'em in Balneo, and strain hard, and put to the liquor more flowers and tops of St. John's wort, as you did before: doe this three times, and then strain it, and put to the liquor for every pound, old Oil ℥ iv. Turpentine ℥ vi Oil of Wormwood ℥ iii. Dittany, Gentian, Holy-thistle, Tormentil, Ladies-thistle, sweet Calamus, of each ℥ ii. Worms often washed in White-wine ℥ ii. stop them close, and sun them forty days, then put them up.

Oil of Elders.

L Enifies and purges the skin, is good for the obstructions of the Liver, helpful for the joints and nerves pained, the parts grieved being anointed therewith: given in Clysters it provoketh stools, healeth the yellow jaundise, amendeth belly-ach, and easeth the pains thereof, and is made of Elder flowers and Oil olive, as in Oil of Roses.

Linseed Oil, or Oil of Flax-seed,

IS anodine, cureth Convulsions, mitigateth the hardness of the arteries, muscles and nerves, assuageth the pain of the piles or hemorrhoids,

morrhoids, and helpeth the unnatural clefts, chaps and fissures of the fundament; it is used with good success to anoint the secret parts in child birth, and in pulstesses for Women's sore breasts. It is made by expression, bruising your seeds, and putting them in *Balneo* four or five hours, and then strain them with a Screw-press.

Oil of Whelps.

THIS Oil is of wonderfull force to assuage pain, to brink shot-wounds to suppuration, and cause the falling away the Escar; it is thus made:

Rx. Oil Olive ℥iv. boil in it two Whelps newly whelped, until the flesh part from the bones; then put into them of Earth worms prepared ℥i. boil them again, and strain them hard, and put to the Oil, Cypress Turpentine ℥iii. Brandy ℥i. mingle them according to Art.

Oil of Bays.

IS a medicine calefying, mollifying, opening, and discussing, and doth much mitigate the Colick, delivered into the body by Clyster. It is a present remedy against cold griefs

griefs of the Brain, Nerves, Arteries and Loins, the Parties anointed therewith. It is good for the Palsie, Sciatica, the hardness and pains of the Spleen; and is much used, as well to cure the Scab and Ringworm, as the Scurvy. The best is brought to us from the *Fortunate Islands*.

Oil of sweet Almonds

DOth lenifie the roughness of the Breast and Throat, as also the hardness and dryness of the joints. It is good against the Consumption of the Lungs. It is also of good use to be drunk in the Hectick Fever. It stayeth the Cough and assuageth the heat of the Urine, healeth Ulcers by injection, is very good in *colica*, or *iliaca passio*, to be drunk and administred in Clysters, and is thus made:

4 Sweet Almonds dry, and well rubb'd, q. s. beat them well, and put them in a Press, and press out the Oil without heat.

Oil of bitter Almonds

DOth open Obstructions, discusseth Wind and Vapors, but chiefly it healeth Deafness, the hissing and pain of the Ears, lenifieth the hardness of the Sinews, and ma-

D

keth

50 *V A D E M E C U M*: Or,
keth the Face and Hands fair, and is made as
the Oil of Sweet Almonds.

Oil of Vitriol.

Comforteth the Stomach after a wonder-
ful manner, and stirreth up the Appe-
tite. It defendeth the whole Body from
Apostemes and Inflammations, and therefore
it is used with good success in the Plurisie, and
also in vulnerary Drinks it is approved good.
It helpeth the infirmities of the Lungs, taken
with the Water of Fennel or Fumitory. It
cutteth away the melancholy humors from
the Stomach, being taken with Balm-water.
It consumeth Phlegm, cures the Colick, and
the Loosness of the Belly. It quencheth the
thirst in Fevers, cures the Hicock, and Loath-
ing of Meat. It attenuateth the Blood, de-
fendeth wounded parts grieved from fear of
Gangrene, or Putrefaction of the Blood. It
conglutinateth Ruptures as well of Bones as
Veins; and doth exceedingly comfort and cor-
roborate all the parts of Man's Body, and may
well be numbred as a principal amongst cor-
dial Medicines. It is also a very good Medi-
cine, not only in preventing the Scurvy, taken
inwardly, but also in the Cure of the Scurvy
many ways; both inwardly taken with any
comfortable Wine, or with Beer for need, or
to

to make a Beverage therewith; and daily to use it in small quantity, namely, four drops for a Dose. In the Calenture, it excelleth all other Medicines, taken in Plantan, Sorrel, or any other Water, or only in fair Water: It is good to rub foul black Teeth, to make them clean and white, but use it not often, for then it will consume them. In Ulcerations of the Mouth, Throat, or Uvula, that resist ordinary Medicines, touch the ulcerated part but once with this Oil, and the Ulcerations will heal very fast afterwards with any ordinary medicines and helps, remembering, as cause shall require, to use due Evacuations, or Phlebotomy. It is good in the Squinancy or Angina, used certain drops in a fit Gargarism or Lotion, namely, to make it somewhat sowre, and then gargarize warm therewith; for it mightily quencheth Inflammations, and tempereth well the Blood; and being likewise a little thereof given to drink, namely, six drops, in such a case it is much the better; always remembering that in all such Diseases you cause Looseness of the Belly, and sometimes Phlebotomy. Moreover, in Ulcers and Fistula's, scarce a better Medicine is found to enlarge a strict Orifice, remove a *callus*, or to prepare any inveterate Ulcer to good healing, only by touching it with Lint on the end of a Probe, thereby

D 2

putting

putting the Medicine to the place where the Disease is. Is a good corrective in all purging Medicines, and helpeth them to do their office ; for it comforteth the whole Body, and giveth a grateful taste almost to any Medicine. It is also good to a weak Stomach oppressed with phlegm or slime, and helpeth Appetite, taken in Conserve of Roses. There is no Medicine more precious in pestilential Fevers. The true and utmost Dose cannot be justly set down, but must be made by the taste, putting in so much as may make the Vehicle or Medicine sharp or sowerish ; for your Purges they shall only be a little sharpened with certain drops thereof, only to alter a little the taste ; but in the Calenture, strong, or pestilential Fevers, a greater Dose may well be taken according to discretion and judgment : But note this, That if you put any of it into any liquid Medicine, as Barly-water, Juleps, or such like, which you intend to divide in several Doses, let the Glass be always shaken well before you pour it out, else the Oil will lie at the bottom, and make the last Dose not only too sharp if taken, but also dangerous.

Oil of Sulphur.

IS good to make the Teeth white, to take away the Morpew, cure Venereal Ulcers, expelleth diseases arising from wind or cold. It is good against the Falling-sickness, shortness of Breath, evil affections of the Lungs, easeth the Tooth-ach, and is (being well prepared) a true cordial Medicine.

Oil of Turpentine,

IS taken inwardly, against the Stone, the Cholick, cold and windy affections of the Breast. It is outwardly used to heal sinews wounded, or troubled with any intemperature; also to fill Ulcers with flesh, and knit them up, having no cicatrize on them.

Oil of Spike.

DOth calefie, attenuate, discuss, and is very profitable to them that have the Gout, proceeding of a cold cause, or to comfort any member benumbed: Also it is good again the Falling-sickness, and Convulsions, the Tempils, and the Nape of the Neck and Spine, yea, and the whole head to be anointed therewith.

Oil of Myrtles,

REfrigerateth, astringeth, and comforteth, but properly the Heart, Stomach, Brain, and the Nerves. It is good in Fractures, for it cools, and resists putrefaction. It is made as followeth:

Rx. Myrtle Berries bruised, and sprinkled with astringent wine ℥ i. juice of the leaves ℥ ℥. Oil of unripe olives ℥ iii. steep the berries in the Oil for the space of 24 days, then boil them and strain them, and put in more berries: Do thus three times in a double vessel, after the third straining add the juice, and boil it to the consumption of that juice, and put it up.

Now for Balsams.

And first of Balsamum Vulnerarium,

VHich is also call'd *Mirabile*, by reason of its great and wonderful Virtues, and Cures it hath perform'd, when other means have been ineffectual. For it cures Wounds and Ulcers, and is good against the Palsie, and weakness of the Nerves, and pains

pains in any part, from a cold cause, and is thus made :

Rx. Of the leaves and flowers, with the seeds of Tutsan, the tops of St. John's-wort an. M. ii. Ground Ivy, Sage an. M. ss. macerate them in a glass'd Vessel for two days, in ℥ ii. of the best White-wine, then add ℥ i ss. of old Oil, let them boil over a gentle fire till the Wine be wasted, strain it, and put to it ℥ i. of Terebinth, Dust of Thus ℥ iv. Myrrhe ℥ iii. Mastich. Sang. Dragon. an. ℥ ii. Styrax. Calamit. ℥ i. heat them all over the fire, then put them in the Sun for seven days, and keep it for your use in a Glass, or earthen glass'd Vessel.

The famous Balsam of Guido is of the same virtue ; and Petrus Apponenſis calls it *Medicamentum omnium medicamentorum in celeri cordis roboratione, & virium restauratione.* Tis thus made :

Rx. Choice Myrrhe, Aloes hepatic. Spice Nardi, Sang. Dracon. Thuris, Mumia, Opoponacis, Bdellii, Carpobalsam, Ammoniac. Sarcocolla, Croci, Mastich, Gum, Arab. Styrac. liquid. an. ℥ ii. Ladani, Castorei, an. ℥ i ss. Mosch. ℥ ss. Terebinth the weight of all, being dried, powder them, macerate them in Wine, and strain them, then mix them all with Terebinth, put them into

an Alembic, there will first come a thin Liquor, then a thick, red, yellowish, which is the best Balsam.

The Spanish Balsam, or *Oleum Benedict.* they say heals Wounds, even of the nervous parts, in 24 hours space, and is thus made :

℞. Oldest Oil ℥ iv. Flor. Hyperic. ℥ i. Terebinth Cypria ℥ viii. pure wheat ℥ i℥. Rad. Card. Benedict. Valerian. an. ℥ i. Thuris pulverisat. ℥ ii. the roots and herbs bruis'd, put them in a glass'd vessel, and put upon them the best White-wine, as much as will cover them : let them infuse a day, then add your oil and wheat, boil them till the wine be wasted, then strain them hard, add the Terebinth and Thus, boil them again a little, and keep it in a Glass, or glass'd Vessel.

The way to use it is thus :

First wash the wound with White-wine cold, then anoint the wound with this oil warm; if this cannot be done, inject it with a syringe, presently join the lips of the wound together by ligature, suture, or glew, then anoint the neighbour parts with the said oil, but upon the lips of the wound being join'd, lay a cloth or lint moistned in the oil, and upon that another cloth dipt in black wine, above all a dry linnen cloth, then rowl it
f. a.

Lucatulli's Balsam,

IS good for Wounds, being poured in hot. In Bruises, Ulcers of the Reins, Stone in the Kidneys, or Bladder, with difficulty of making water, I use to give one drachm in Sack for Bruises, in white-wine for the Stone. It is made as followeth:

Rx. The best yellow wax ℥ i. melt it over a gentle fire in a like quantity of Canary; then add of the best Oil of Olives, Venice Turpentine, washt white in Rose-water of each ℥ i℥. let them boil upon a gentle fire, till the wine be evaporated; then taking them from the fire, sprinkle in ℥ ii. of red Sanders finely powdered; so stirring them continually till they be cool, your Balsam is artificially made.

Of Waters.

And first of Mint Water.

IT warmeth and strengtheneth the Stomach, Liver, Spleen, or Milt, helpeth Concoction, stayeth Vomit, is very cordial, and is distilled with Spear-mints, and white-wine, adding

adding, if you please, a Clove or two, and a blade of Mace.

Water of Carduus Benedictus,

E Aseth the pain of the Head, confirmeth the Memory, cureth the Quartan, provoketh Sweat, and comforteth the vital spirits, and is made by distillation.

Treacle Water,

IS good in the Plague, or pestilential Fever, the French disease. It killeth Worms, helpeth the trembling of heart, and is good to be mingled in Diaphoreticks. The manner of making it, is as followeth :

Rx. The juice of green Walnut-shells ℥ iv. juice of Rue ℥ iii. juice of Holy Thistle, Marigolds, Balm, of each ℥ ii. roots of Butter-Burre ℥ i℥. roots of Bur-dock ℥ i. roots of Angelica and Masterwort, of each ℥ vi. leaves of Scordium four handfuls, old Venice Treacle, Mithridate, of each ℥ viii. good Canary-wine ℥ xii. of the sharpest Whitewine vinegar ℥ vi. juice of Limons ℥ ii. Digest them two days in Horse-dung, or Balneo, in a Vessel well closed, then distil it in sand.

Water

Water of Damask Roses,

DOth refrigerate, and comforteth the heart, is good against swooning, and causeth sleep.

Red Rose Water.

DOth refrigerate, bind, and corroborate the vital and animal faculties; benefiteth the Head, easeth the pained Ears and Eyes, and doth good in Inflammations, and is profitable in Medicines against a Dyfentery.

White Rose Water.

IS very good to put in Collyries for the Eyes.

Plantan Water;

IS astringent and sanative, good for them that are in a Consumption of the Lungs, in a Dropsie, or that have the Bloody-flux; good also against the Quartan Ague. It cureth the Ulcers of the Reins, Bladder, and Excoriations of the passage of the Yard; and being drunk, helpeth against ardent Urine, or the sharpness of the water.

Balm

Balm Water

HAth a great respect to the heart ; a great cordial, and a good smell and taste. It is more proper to Women than Men ; for it much respecteth the infirmities of the Mother, and is in the times of their pains very profitable to take a little of it, for the safer provoking of a speedy delivery. The way to distill it is thus :

Rx. Balm leaves dry ℥ii. macerate them in six Gallons of Brandy for 24 hours, then distill them with an Alembic, adding to every pound of distilled liquor fine sugar ℥ii.

Angelica Water

MAy serve instead of Treacle and Mithridate for a preservative against the Plague, or any infectious Air ; for there is no one thing more commended by ancient and modern Writers in that kind, than *Angelica* is, whereof there is good experience. It is also very stomachical and cordial ; and being truly made, will retain its strength and virtue Forty years and more ; it is made as the former :

Wormwood

Wormwood Water.

THIS Water is very gratefull in the Stomach, for it is a Balsam thereunto; it consumeth and breaketh Wind mightily, and killeth Worms, hindreth Vomiting, provoketh Appetite, is very good against pains in the Head, proceeding of a cold cause, and is very cordial. It is made as the former, adding half a pound of Anniseeds.

Anniseed Water

IS very excellent against wind in the Stomach, or elsewhere in the Body; and against *Asthma*, Ptisick and shortness of breath. It also breaketh Phlegm, and warmeth the Stomach; and is distilled from Anniseeds well macerated in Brandy, as the other.

Cinnamon Water

DOth comfort and Strengthen the Stomach, the Liver, the Milt, the Lungs the Heart, the Brain, and the Sinews, sharpeneth the Sight, is good against Venom, as also the stingings and bitings of venomous Beasts, helpeth a bad or ill favouring Breath, is good against loathing of the Stomach; and
where

where you desire to warm, to open, to attenuate, digest or corroborate, in all such cases this pretious Liquor excelleth, and is made as the former.

Doctor Stevens's Water.

IS a notable cordial Water, comforts the Head and Heart, yea, and all the principal faculties of the body, both animal, vital, and natural, if it be truly prepared. It helpeth all cold diseases, Palsies, Convulsions, Barrenness, Tooth-ach. It killeth Worms, cureth the Dropsie, Stone, Stinking-breath, and prolongeth life, and is made as followeth :

*Rx. Cinnamon, Ginger, Galingal, Cloves, Nutmegs, Grains of Paradise, Anniseeds, Fennel seeds, Carroway seeds, of each 3*i*. Thyme, Mother-thyme, Mints, Sage, Pennyroyal, Pellitory of the Wall, Rosemary, Red-Rose Leaves, Camomil, Origanum, of each one handful. Infuse them all 12 hours in 12 pints of Gascoin Wine, then distill them in B. M. S. A. having this, you need not Aqua Cœlestis, Mirabilis, nor Imperial, or any such like, but this may be for all.*

The

The common Lotion

IS used in Ulceration of the Mouth or Gums, in griefs of the Yard, as well within the passage, as also between *glans* and *preputium*. There are divers sorts according as occasion offers, but that which I mean here, is onely made of Sage, Rosemary, Woodbine and Bryer tops boiled in water, adding Honey or Sugar, and Allom; or *Lapis Medicamentosus*, or *Sal Prunel*. Put a Rag on your finger, or on a stick, and dip it into the Lotion warmed, and rub the Gums hard therewith, and the ulcerated parts, until they bleed.

Strong Lie

IS Capital Lees, and is very necessary to mollifie the White-caustick when it groweth dry; as also if need be, by decoction, to make a *Lapis Infernalis* for to make Issues, or break Apostemes. The Liquid-caustick is made of unslaked Lime, and Capital Lees, boiled together to the thickness of an Unguent, and applied as hereafter shall be shewn.

Vinegar

Vinager of Wine

Helpeth the unnatural swellings of the Belly, and also cureth the fluxes of the Belly and the Stomach, the parts grieved being fomented therewith. It stayeth the inordinate menstrual fluxes, the region of the Liver, or the beating parts fomented therewith warm, namely, with Stuphes wet therein. It is good against vomiting, the Stomach outwardly fomented with warm Stuphes wet therein. It also discusseth and dissipateth violent hot Tumors in their beginnings, yea, even those which are named *Panaritia*, or, as some term them, Felors. It excelleth in Cataplasms, as also in Fomentations, provided the place be not excoriated: *in hernia humoralis*. In the falling down of the Fundament it is approved good, sometimes with Wine used warm to foment the part withall, as also to be cast on Bricks to receive the fume thereof. In the hot Gout, and in all Inflammations, as the *Rose*, or *Ignis sacer*, or, as some call it, *St. Anthony's Fire*: it is a precious help also by way of Gargarism. It is an approved remedy against *Angina*, or any sudden inflammation of the *Columella*, or the *Amygdals* of the Throat; and if you mingle with it Oil of *Roses*, you make it the better for all the afore-said uses.

Vine-

Vineger of Roses

IS very cordial, helps the Stomach, refresheth Nature weakned, and is good against the fainting, and great weakness of the Spirits: But if the Artist have no Vineger of Roses ready, he may mix with wine vineger a little Rose-water, and it will doe almost as well. It is thus made:

℞. Red-rose buds almost blown, being fresh, and the leaves clean picked from them that are withered and naught, gathered very dry, and then spread abroad in the shade to dry, about three or four days ℥i. Wine-vineger twelve pints. Set them in the Sun forty days, then strain the Vineger, and put it up; but if you will have it more strong of the Roses, then make a second infusion of fresh leaves.

Spirit of Wine or Brandy

OF all Vegetables is the most pretious thing. It is the truest of all Cordials. It preserveth the Body from putrefaction, and in every cold oppression of Nature it is a true helper; for the Cough, and all distillations of Rheums and Fluxes, it is a perfect help. It comforteth the Stomach, and provoketh

provoketh Appetite. It helpeth those which are thick of hearing, one drop daily put into the Ear. It preserveth a man in health, if every Morning and Evening he take certain drops thereof; and defendeth the Body that taketh it, from the oppression of infectious Air; and (being sick) almost in any disease, it may safely be given as a true restorative Medicine. It is good in Wounds and Ulcers, of which in another place hereafter we will make mention; it is to be had at the shops.

Of Decoctions.

And first of the common Decoction for Clysters.

THE Artift is always to have in a readiness the Simples for this, for 'tis oft-
nest used: of Clysters more hereafter. It is thus made:

Rx. Mallows, Violets, Pellitory of the Wall, Beets, Mercury, an. M. i. Flor. Chamom. Pug. ii. Sem. Fan. ʒiʒ. Lini ʒii. boil them in q. s. aq. commun. ad ℥i. in this you are to dissolve your Electuary, Oils, &c. as you will see.

Decoctum

Decoctum Epithymi, is

A Sovereign remedy to purge Melancholy, and adust Choler : Two ounces of Senna in lieu of one will make it work a great deal better, and not weaken so much ; or if you add ℥i. 15 or 10 grains of Pul. Diasenna to ℥iv. of the decoction 'tis a Jewel in Melancholy diseases ; or one ounce of Syr. Epithymi, or ℥i. of Syr. de pomis purgans. It is thus made :

℞. Myrobal. Cheb. Indar. an. ʒss. Stechas. Raisins of the Sun stoned, Epithymi, Senna, an. ʒi. Fumitor. ʒss. Maudlin ʒv. Polypody ʒvi. Turperth. ʒss. Goats or Cow-whey ℥iv. let them all boil (except Epithym.) to ℥ii. then add Epithym. boiling them a walm or two, take it from the fire, and add black Ellebor. ʒiss. Agaric ʒss. sal. gem. ʒiss. macerate them ten hours, then press them hard, and strain them. The Dose is about ℥iv.

Decoctum Senna Gereonis.

℞. **S**enna ʒii. Polypody of the Oak ʒss. Zingib. ʒi. Raisins of the Sun stoned ʒii. Sebestens, Damask Prunes, of each xii. Flowers of Borage, Violets, red Roses, Rosemary, of each ʒii. Boil them in two quarts of water till half be absumed. This

This may be a common Decoction for any purge, by adding other simples or compounds, according to the quality of the humor you would have purged; but in its self 'tis chiefly ordain'd for the purging of Melancholy, and it is indeed an elegant composition and well tasted Decoction: ℥i. or ℥ss. of Syrup of Cichory with Rhubarb being added, or the Syrups in the last Decoction, or *Pulv. Diasenna*.

Decoctum Traumaticum.

℞. *S*alsaparilla ℥iss. China ℥i. Fennel roots, Burdock roots, Nettle roots, Rhapontic roots, Comphrey roots, Liquirice, and Avena roots, of each ℥vi. *Arstoloch. long.* ℥ss. White Diptany ℥ii. of the leaves of Betony, St. John's wort, Agrimony, 5 nerv'd Plantan, ground Ivy, Bugle, Winter green, Sanicles, of each Mss. Raisins of the Sun stoned ℥i. Anise, Coriander, and the lesser Nettle seed, of each ℥ii. Juniper Beries ℥i. shavings of Hart's horn and Ivory, of each ℥v. Boil them in a sufficient quantity of water to ℥ii. to the straining add White wine ℥iv. clarified honey, and white sugar candy, of each ℥i. *Misce.*

In the last Edition of the London Pharmacopæia, by a mistake, was put ℥i. of honey and sugar candy.

It is invented for wounded persons to drink, but have a care it be not too hot; but in Ulcers 'tis very proper, if the Patient take ℥iv. fasting in the morning, and as much at four afternoon, it may be instead of a diet drink made of *guajacum salsaparilla*, *China* and *Sassafras*, &c. but in wounds leave out the White wine, or boil 'em in small Ale; this Decoction is also good for Consumptions of the Lungs, spitting of blood, malignant Dysenteries and Gonorrhœas, after due purgation.

Decoctum Pectorale.

IS good against a Cough, Asthma, &c. most Diseases of the Breast; is thus made:

℞. Raisins of the Sun stoned ℥i. Sebesten, Junibes, an. No. xv. Dates, No. vi. Figs, No. viii. French barley ℥i. Liquirice ℥ss. Maiden-hair, Hyssop, Scabious, Coltsfoot, an. M. i. boil them in aq. font. ℥iii. to the wasting of a third.

Lac Virginal

VAS invented to clear the Face of Sun-burning, Freckles, Pimples, &c. is thus made:

℞. Roch Alum ℥iv. boil'd in aq. Font. ℥ii. ad tertias, then

℞. Lytharg.

℞. *Lytharg. Auri* ℥ss. *best Wine-vinegar* ℥ss. *boil them to ℥i. mix both the waters together, and shake them till they look white.*

Note, When at any time 'tis left to the discretion of him that makes the Decoction, or said q. s. it is understood by some as much water or other liquor prescrib'd, as will be three or four fingers breadth above the Ingredients to be boil'd.

Of Syrups in General.

THE Artist ought to be more diligent to labour in his Art, than to be curious in searching out the Etymologies of words; but to satisfy him *Syrupus, quasi Syria opus*, i. e. *Liquor of Syria*; it may be because the Physicians of that Countrey were the first Inventers of it: Or from *Syro, Traho*, and *opus Liquor*, because Syrups are composed either of juices, or decoctions of Roots, Herbs, Fruits, Seeds and Flowers, which are strain'd hard with the Hand or Press. They are either altering, or purging; and first of the altering, and they are either simple or compound; the simple are made of equal parts, of the juice of any Herb and Sugar boil'd, according to Art: you may know when 'tis boil'd enough, by dropping some upon a cold stone, the virtue of the Syrup being the same of the Herb 'tis made of.

Syrupus

Syrupus de Althea

IS an opening slippery Syrup, good against the Stone, Gravel or Colick, and heat of Urine; you cannot well err in the Dose.

'Tis thus made :

Rx. Roots of Marshmallows ℥ii. Grass, Asparagus, Liquirice, Raisins stoned an. ℥ss. the tops of Marshmallows, Pellitory, Burnet, Plantan, Wall-rue, Maiden-hair, an. M i. red Cicers ℥i. the four greater and lesser cold seeds, an. ℥iii. infuse them in three quarts of fair water a day, then boil them till two remains, to which being press'd and strain'd, add ℔iiss. of white sugar, F. syr. in B. M. s. a.

Syrup of Clove-Gilliflowers

STrengtheneth the Heart, Liver and Stomach, therefore put into most Cordials, and is thus made :

Rx. Clove-Gilliflowers clean'd from the stalks, pour on them a quart of spring water, and let them infuse all night; then with four pound of white sugar dissolv'd in the straining of the infusion in B. M. make your Syrup without boiling it.

Syrup of Citrons

IS good in Fevers pestilential, and others, quencheth thirst; &c.

Syrup

Syrup of Limons

Refrigerates and penetrates more than the other, good against Worms, corrects Putrefaction and Crudities.

Syrup of Verjuice

Stays Vomiting and Fluxes, good in bilious Fevers, &c.

Syrup of Wood-sorrel

Is good in pestilential and other Fevers, &c.

Syrup of Quincies

Stays Vomits and Fluxes, spitting of blood, defluxions from the head upon the breast.

They are all made after this manner :

Rx. Of the juice of any of them strain'd, and depurated, by setting ℥i. the whitest sugar clarified and boil'd to the consistence of a Tablet ℥ii. boil them a walm or two, and F. syr. f. a.

Syrup of Red Poppies

Is good in Surfeits, Fevers, &c. Dose to ℥i. it is thus made:

Rx. of the fresh flowers of red Poppies ℥i. pour

pour ℥iv. of warm water upon them, the next day press them, and make a new infusion, strain them, and boil it in B. M. to a Syrup, with equal weight of sugar.

Syrup of the Flowers of Water Lillies comp.

A Llayeth heat in any part, and in Fevers, and causeth sleep.

℥ Fresh flowers of the whitest water Lillies ℥ss. violets ℥ii. lettuce M ii. seeds of lettuce, porcelan, gourage, an. ℥ss. boil them in clear water ℥iv. to the absorption of one; to the straining add red rose water ℥ss. white sugar boild and clarified ℥iv. F. syr. in B. M. if you ad ℥ss. of the juice of porcelane, it may serve in lieu of syrup of porcelane, for the same use.

Syrup of Myrtles

Is astringent, good for spitting of blood, &c.

℥ Myrtle berries ℥liiss. red and white sanders, sumach. pomegranate flowers, kernels of the berries, red roses an. ℥iiss. services cut small ℥ss. bruise them, and boil them in clear water ℥viii. to iv. strain them, and add of the juice of ci-

74 *V A D E M E C U M*: Or,

trons and pomegranates an. ℥ vi. casting in by degrees ℔ iv. of sugar, boil them to a syrup, adding the juices towards the end.

Syrup of Roses solutive,

Loosens the Belly, purgeth Choler,
Ec.

Rx. ℔ iv. of warm spring water, damask rose leaves, as many as the said water is capable to receive, infuse them the space of 12 hours, then strain them hard; in which, being warm, make a new infusion of the same quantity of Roses: Do thus three or four times, augmenting always your quantity of Roses to that of the strain'd liquor; which done, of six parts of this liquor, and four parts of sugar, *F. Syr. in B. M. s. a.*

Syrup of the juice of Roses, is

PRepar'd, without maceration, of the juice of the Leaves of Damask Roses, with the same quantity of Sugar to the juice (which must be depurated) as above.

Syrup

Syrup of Wormwood Compound.

THis Syrup corroborates the Stomach, causeth an Appetite, discusseth Wind, openeth Veins, moves Urine, and killeth Worms : And is thus made :

Rx. Common wormwood not too dry, ℥ss. red roses ʒ ii. Indian spike ʒ iii. old rich white-wine, juice of quinces, of each ℥ ii℥ss. macerate then in an earthen vessel a whole day, then boil them gently in B. M. strain them, and put to them ℥ ii. of sugar, and make a syrup. f. a.

Syrup of Limons, is

Cordial and refrigerating. It doth please and profit the Appetite, and comforteth all that are sick of the Pestilence, or continual and contagious Fevers, as also all Diseases on which exceeding great heat attendeth. It cheareth up the heavy Heart, and dispelleth Sorrow therefrom, and against all obstructions of the Spleen it is a good help, and also well approved in the Cure of the Scurvy. It is made as followeth :

Rx. Juice of limons strain'd and purified ℥ i. white sugar clarified and boil'd to the consistence

of a Tablet ℥ii. boil them with a soft fire to a Syrup.

Syrup of Poppies

HAth an astringent quality, procureth Sleep, helpeth the Cough, hindereth the humors which distill from the head into the throat, causing a tickling, and is of precious use against the Palsie, if it be used in the beginning thereof. It is made thus:

℥ The heads and seeds of white poppy and black, of each ℥vi. Venns hair ℥xv. Liquirice ℥v. Fijubes No. xxx. Lettuce seeds ℥v. seeds of mallows and quinces tyed up in a fine rag, of each ℥i℥. boil them in eight pints of water, s. a. and to every three pounds strained, put to clarified sugar ℥ii. F. syrup. s. a.

Syrup of Violets

DOth break the acrimony of Choler, tempereth the heat of the Bowels, bringeth down the Belly by purging. It helpeth the Diseases of the Throat, as hoarseness, and the dry Cough, and is a chief aid to the curing inflammations of the breast. It helpeth the Pleurisie, and quencheth the thirst in Fevers, being put in cooling Juleps, and is cordial. It is thus made:

℥ Vio-

4 Violet flowers picked ℥i. spring water hot ℥iiss. or a sufficient quantity; put them in a new earthen vessel glazed, and close covered, and let them infuse 24 hours, then strain them hard, and in this liquor ℥ii. dissolve in B. M. white sugar ℥iv. take off the froth, and make a Syrup, without boiling f. a.

Oxymel simple, is

OF great use for the cure of inflammations of the Lungs and Throat, helpeth expectoration and difficult breathing, cureth and attenuateth thick and slimy humors, purgeth the intrails without trouble, and is good both in cold and hot affections; and is made as followeth:

4 Of the best aromatick honey despumed ℥ii. clear spring water ℥iiss. of the best vinegar ℥i. boil the water and honey in a glazed vessel, taking off the spume continually with a wooden spoon, full of holes, then add the vinegar by degrees, boil them with a gentle fire, to the consistence of a liquid Syrup.

Oxymel compound, is

USed, when you find the other too weak; 'tis good in Asthma, Pleurisie, deob-

structs the Liver, Reins, Spleen, provokes Urine and Sweat; and is thus made:

24 Root of fennel, smalage, percelly, butchers-broom, sparagus, an. \mathfrak{z} ii. the seeds of smalage, perceley, fennel, anise, an. \mathfrak{z} i. macerate them all (the roots being first cleaned, and cut small, and the seeds bruised) in \mathfrak{lb} x. of clear water, wine vinegar \mathfrak{lb} i \mathfrak{ss} . the day after boil them in B. M. to the exhalation of the third part; to the remainder being strain'd and clarifi'd add \mathfrak{lb} iii. of honey, and so by gentle boiling, and continual despumation, make a thin syrup. f. a. dose ad \mathfrak{z} ii.

Oxymel Scylliticum simplex.

Cuts viscous humors, helps sour belchings, and is thus made:

21. Despumed honey \mathfrak{lb} iii. vinegar of squils \mathfrak{lb} ii. boil them f. a. as in other Oxymels.

Oxymel Scyllit. comp.

Is used when easier Medicines cannot expectorate, good against the Falling-sickness, Megrims, cleanseth the Stomach, and Women after lying in. Dose ad \mathfrak{z} i. and is thus made:

24. Origan.

4. *Origan. Hyssop. Thim. Privet. the lesser, Cardamom. Stechad.* an. 3 v. boil them in ℥ iii. of water to one, to the straining add honey ℥ ii. *mel passulat. ℥ ss. juice of briony 3 v. vinegar of squils ℥ iss.* boil them, and scum them.
f. a.

Diamoron, is

PROfitable in Gargarisms, against the eating Ulcers of the Mouth. It cutteth away Phlegm, and cleanseth the Mouth and Throat ; and by reason of the pleasant taste thereof, it is the more comfortable to the diseased. It is thus made :

4. *The juice of mulberries and bramble-berries, gather'd before they be ripe, and before sun-rise, and depurated by settling, of each ℥ iss. honey strain'd and despum'd ℥ ii.* let them boil in *B. M.* to a just consistence.

Syrup of Sloes,

DOth refrigerate and comfort the Stomach, stoppeth Fluxes, healeth the excoriations of the Intraills, and is made with the pulp of Sloes and Sugar.

Honey of Roses

Strengthneth and cleanseth the Stomach, purgeth clammy humors, helpeth concoction with the temperate heat thereof, allayeth and stoppeth hot fluxes, the *phlegmone* of the mouth, gums and jaws. It is singular good with Oil of Roses for wounds in the head, and putting thereto some *Aqua vite*, makes it good to heal wounds in the joints, where the joint water gleeteth out. It is thus made :

℞ *Pure white honey despumed* ℥x. *fresh juice of red roses* ℔i. *put them into a skillet, and when they begin to boil, throw into them of fresh red rose leaves picked* ℔iv, *and boil them until the juice be wasted, always stirring it, then strain it, and put it up in an earthen pot.*

Next of Sapa or Rob.

They are made of certain Juices, as of Barberries, Quinces, Cherries, &c. The juice is to be boild'd over a gentle fire, always despuming it to the consistence of Honey; if you add Honey or Sugar, it will keep the longer;

ger; they participate of the same virtue as the simple whereof they are made; to every lb. of juice, take half of honey or sugar.

Of Lohochs.

What the *Greeks* call'd *Eclegma*, and the *Latines* *Linctus*, the *Arabs* call'd *Lohoch*; 'tis used chiefly in affects of the Windpipe, Lungs and Breast. They were invented by the Ancients for divers intentions; to thicken or make thin humors, to deterge, sweeten and correct the sharpness and driness of the Windpipe, &c. They are of a middle consistence, between a Syrup and an Electuary.

They must be of a glutinous quality, that they may not too fast slide into the Stomach; make them astringent in spitting blood.

They are made of Fruits, Seeds, Juices, Gums, Sugar, Sapa, Honey, Syrup, Decoction of Figs, Barley, Mucilage: bruise them, pulp them through a Sieve, make them up with the aforesaid things; Conserves, Poultices, are sometimes added; the Powder of Linseed dried, easeth Childrens Cough given with Honey. A *Lohoch* is made of Butter, Terebinth, Sugar, for a Cough from a cold cause; they are taken with a liquirice stick.

Lobock of Coleworts, is

PROPER for all affects of the Breast, &c.
is thus made :

4. Juice of red coleworts ℥ i. saffron ʒ ii.
white sugar, honey an. ℥ ss. dissolve your saffron
in some of the juice, and boil the rest with honey
and sugar (adding towards the end the saffron
diluted) to a fit consistence.

Lobock Sanans, is

GOOD for those that are hoarse by cold,
&c. is thus made .

Rx. Garden hyssop, calaminth, an. ʒ ss. juju-
bes, sebesten, stones taken out, an. xxx. raisins
of the sun stoned, figs, dates, an. ʒ ii. lin-
seed and fenugreek an. ʒ v. maiden-hair M. i.
anise and fenel seed, orice roots cut small, liqui-
rice bruised, cinamon, an. ʒ ss. boil them all s. a.
in clear water ℥ iv. to the waste of half; adding
sugar penids ℥ ii. gum arabic, tragacanth, dis-
solv'd in the said decoction, an. ʒ iii. boil them
to a syrup, then cut small and bruised pine ker-
nels, ʒ v. sweet almonds blanch'd, liquirice,
starch, an. ʒ iii. oris roots, ʒ ii. sprinkle these
into the syrup being taken from the fire, and stir-
red till it begin to be white.

Lobock

Lohoch Scyllitic. is

More gentle than Oxymel, and is thus made :

Take 3 iii. of a squil bak'd in paste, oris root 3 ii. byssop, hoar-bound, an. 3 i. saffron, myrrh, an. 3 ss. honey, 3 iiss. bruise the scill in a stone mortar, and with the honey put them to the fire, as soon as they are hot take them away, and springling in the other things powdered, and stirring them with a quick motion. F. Lohoch. s. a.

Next of Preserves.

They are made of Roots, Stalks, Barks, Flowers, Fruits, Pulps, thus.

24. Eringo roots q. v. clean them within and without, taking away the pith, then macerate them a day or two in clear water often changed, then wipe them with a linnen cloth, then take equal weight of white sugar, and as much rose water as will dissolve the sugar, put them over the fire, and scum them, when 'tis almost boil'd

to a Syrup, put in the roots, which are to be boild till the humidity is almost wasted, and to the form of a Syrup.

Thus are preserv'd Roots of Angelica, Borage, Bugloss, Cichory, Enul. Camp. great Comfry, &c.

The stalks of Artichokes, Angelica, Burdock, Lettuce, &c. are preserv'd before they be quite ripe, (contrary as in roots) taking only the pith; after the same manner.

Barks, as Orange Pills, &c. are preserv'd by taking off the outward yellowness, and macerating them at least three days in Fountain water, often changing it, then put them into sugar as before. *f. a.*

Preserve Flowers of Citrons, Orange, Borage, Primrose, &c. as before with sugar.

For Fruits. 24 Apricocks, pare them, and take away the stones, and put them into equal weight of sugar dissolv'd; then four hours after take them out, and the sugar being boild as it ought, without any new liquor, put them in again to boil together. *f. a.*

After this way, or little differing, are preserv'd other Fruits, as Barberries, Cherries, Citrons, Quinces, Peaches, Apples, five sorts of Myrabolans, Nutmegs, Wallnuts, Filberds,

berds, Raisins, Grapes, Prunes, Sloes, &c.

Of any of the Fruits you may preserve the Pulp by boiling them in Fountain water till they be tender, then pulp them through a Sieve; boil the Pulp till the water be consumed in a glas'd vessel, stirring it often, lest it burn to, then to ℥vi. of the Pulp, add sugar ℥x. and boil it to a fit consistence.

Flowers of Broom, Capers and Olives, are preserv'd in Water, and Salt, and Vineger; lastly, Cinamon, Rose and Marygold Flowers, Almonds, &c. likewise Seeds and Branches are said to be preserv'd, but with this difference, that for the most part being dry, they are incrusted with sugar, and are rather called Confections.

The virtue of Preserves participate of the same with the Root, Stalk, &c. Preserved Conserves are made of Herbs, as Wormwood, Sorrel, &c. Flowers, as Orange, Roses, Borage, and tops of Herbs, as *Carduus Benedict.* Fumiter. Balm, &c. Herbs and Flowers, as Eyebright; and Roots, as Enula bruised, &c. Fruits, as Sweet-bryer and Leaves of Scurvygrass, Mints, Rue, &c. they are all made of the triple quantity of sugar, the Herbs, &c. being first beaten pretty small in a stone Mortar, then add the sugar.

Note all are not to be mixt after the same manner,

manner, for some must be first cut, bruised, and gently boiled, some neither, some one way onely; wherein the Artist by this caution, may shun erring.

Saccharum Tabellatum composit.

IS good to free the Stomach from Choler and Phlegm, and for Worms, is thus made:

℥ 4 Rhenubarb, ℥ iv. troches of agaric, coral-lin, C. C. burnt, dictamy leaves, worm-seed, purcelan and sorrel seed, an. ℥ i. cinamon, zedoary, cloves, saffron, an. ℥ ss. white sugar finely beaten, ℥ i. dissolve the sugar in ℥ iv. of wormwood water, of wormwood wine, ℥ i. cinamon water a spoonfull; with the aforesaid species make tablets. *f. a.*

Saccharum Rosatum Tabulatum

STrengthens weak Stomachs, and comforts the Spirits, stays Vomiting, and pissing Bloud; they are for consumptive People to carry in their Pockets, and now and then eat a little.

Next.

Next for Powders.

They are made of all dry things that may be powdred; they are either altering or purging, internal or external; the purging are made of Purgers and their Correctives with Sugar. Strengtheners of the Stomach, are made of Coriander, Anise, Fenel-seed, &c. with Sugar of Roses. Cordial ones are made of proper Powders, simple and compound, adding to ℥i. three or four of Sugar of Roses. They are made likewise for the Stone, to move courses, to bind; for obstructions with steel, and openers with equal weight of Sugar. Externally they are made to strengthen the head and other parts, of Roots ℥ii. Seeds ℥vi. Flowers ℥iii. Aromatics ℥ii. Chirurgical also, as Sarcotics, detergent, adstringent, whereof hereafter.

Aromaticum Rosatum

Strengthens the Stomach, stays Vomiting, breaks wind, helps Swooning, Palpitation, Convulsion, Epilepsie, &c. Dose to ℥ii. is thus made:

℥ Red roses 3xv. liquirice 3vii. wood of aloes, yellow sanders, an. 3iii. cinnamon. 3v. cloves, mace, an. 3iiss. gum arabic, tragant. an. 3viii. nutmeg, cardamom the greater, galanga, an. 3i. spikenard, ambargreese, an. 3ii. mosch. 3i. F. pulv. s. a. keep it in a glass.

Species Diaireos, is

Good against Coughs; you may make it up into an Electuary with Honey, or some pectoral Syrup, and take it with a liquirice stick. It may serve instead of *Diacalamimbes*. Dose 3i. It is thus made:

℥ Orice root 3ss. sugarcandy, species of *Diatragacant*. frigid, an. 3ii. F. pulv. s. a.

Pul. Diatragacanth. frigid. is

Good in Diseases of the breast from a hot cause, or putrefaction in the parts, take it with Syrup of Violets, Dose 3i.

℥ Gum tragacanth, 3ii. arabic, 3x. starch, 3ss. liquirice, melon, and white poppy seeds, an. 3iii. pumpions, cucumers, gourges, an. 3ii. penids 3iii. flowers of water lillies, 3i. F. pul. s. a.

Pulvis Haly, is

Good in Inflammations of the Lungs,
Phthysick, Pleurisie, &c. Dose to ℥i.

℥ White poppy seed 3x. starch, gum arabic, tragacanth. an. ℥iii. seeds of porcelan, althea, mallows, an. 3v. cucumers, melons, gourges, pompions, quinces, an. 3vii. rasp'd ivory, liquirice, an. ℥iii. white ambar ℥ii. penids, the weight of all. F pulv. f. a.

*Purging Powders, and first of Pulvis sanctus,
or Diasenna*

IT purgeth all humors from all parts, given
in Whitewine alone, or with some opening Syrup. Dose to ℥i℥.

℥ Senna, cream of tartar, an. ℥ii. cloves, cinamon. galanga, ammeos, an. ℥ii. diagrydi ℥ss. F. pulv. f. a.

Pulvis Holland. or Pulvis Sennæ comp. major

IS of the same nature and dose with Pulv.
Diasenna; and is thus made :

℥ Aniseeds, caraway seeds, fenel seeds, cym-
min.

90 *V A D E M E C U M*: Or,

min seeds, spiknard, cinamon, galanga, an. $\mathfrak{z}\mathfrak{i}$
liquirice, ground-sill, zalap. an. $\mathfrak{z}\mathfrak{i}$. crystal of
tartar $\mathfrak{z}\mathfrak{i}\mathfrak{i}$. dacrydium, $\mathfrak{z}\mathfrak{i}\mathfrak{i}$. senna, the weight
of them all. *F. pulvis.*

The Earl of Warwick's Powder, is

OF such esteem by one, that he wrote a
whole Book of it, and commends it
in all diseases almost, where purging is re-
quisite.

\mathfrak{z} Scammony prepar'd with the fume of sul-
phur, $\mathfrak{z}\mathfrak{i}$. antimon. diaphoret. $\mathfrak{z}\mathfrak{i}\mathfrak{i}$. chrystal of
tartar, $\mathfrak{z}\mathfrak{i}\mathfrak{i}$. *M. F. pulv. Dose ad $\mathfrak{D}\mathfrak{i}$.*

Pulvis Arthriticus.

THis is a very safe and good general pur-
ging Medicine. It purgeth all poda-
grical defluxions, and generally any humor or
defluxion of the Body downwards, being
given in waters appropriate, to the quantity
of one drachm; and it is thus made:

\mathfrak{z} *Hermadaetlys*, turbith, diagridium, senna,
filings of man's skull, sugar, of each $\mathfrak{z}\mathfrak{i}$. pow-
dered; mingle them, and keep them close in a
glass.

Of

Of Electuaries, and first in general.

Electuaries are so call'd, because they contain choise Medicaments for inward use; they are either altering or purging, soft or solid; the soft are made of *Powders, Pulps of Fruits, Raisins, Thamarinds, Cassia, Manna*, with *Honey* a little boil'd, &c. The quantity of *Powders* is ℥iii. or ℥iv. to every ℔i. of *Honey*, without comprehending the *Cassia*, and other things; which you are to count rather in rank of *Honey*, or *Sugar*, than *Powders*: And here you must note, that the more your *Electuary* contains of *Powders*, and less of *Honey* or *Sugar*, it is of so much greater force, but more ungratefull; but that which hath less, is of so much weaker force, and more pleasant to the palate. We shall treat first of the altering, because we must follow the law of methodical curing, first to digest and alter the quality of peccant humors, before we purge them.

Now

*Now in particular, and first of London
Treacle :*

IT. may be used well in place of Mithri-
date and Treacle ; but because the fresh
is the best, I hold it most convenient for the
Artist to keep the species ready ; and when
he hath occasion to use any of it, he may put
to every ounce three ounces of Honey, and
warm it upon the fire, stirring it well until
it be perfectly incorporated. - It is thus
made :

*Rx Rased harts horn, ℥ii. citron seeds,
sorrel seeds, piony seeds, basil seeds, of each ℥i.
scordium, coralline, of each ℥vi. roots of ange-
lica, tormentil, piony, leaves of dittany, berries
of juniper and bays, of each ℥i℥. marygolds,
clove gilly flowers, rosemary flowers, tops of St.
John's-wort, nutmegs, saffron, of each ℥iii. roots
of gentian, zedoary, ginger, mace, myrrhe, sca-
bious, devil's bit, holy thistle, of each ℥ii. cloves,
opium, of each ℥i canary wine, as much as shall
suffice to incorporate them, honey three times as
much as the weight of all ; mingle them on the
fire, as I shewed you before.*

Theriac

Theriaca Andromachi, or Venice Treacle.

MY ever honoured Master, Dr. *Patin*, in his Notes upon *Guibert's* Treatise of the *Pest*, says he could write a Volume of what might be objected against this and *Mithridate*, so much cried up by Mountebanks and ignorant Empericks, there are so many absurdities and contradictions to be found in examining these Opiats; and that the *Treacle* in use at this day, retains only the name, and is altogether unlike that famous ancient Confection: And if any shall object, that *Treacle* was so much esteemed by *Galen*, that he wrote two Books of it, one to *Piso*, another to *Pamphilian*: 'Tis answer'd, they were none of *Galen's*; which may plainly appear from the style and ratiocination, which are far different from his way and method: besides the unusual words, nowhere to be found in his Works, and the absurd and erroneous Opinions, which he abhor'd, as may be prov'd from the most learned *Mercurialis*, before him. And farther, If *Galen* did write those Treatises, one would use no other Argument to refute the use of *Treacle* made in our days than the Conditions requir'd by the Author of those Books to the legitimate confecting of it. He
admits

admits of no *Succedanea's*; whereas in very many places it cannot be prepared without at least twelve. He commands above all, that the best Cinnamon be procured, wherein, he says, very many Druggists are deceiv'd, which at this day is no where to be had. It may be farther added, in the right dispensing of it, there must be no Error, no, not in the least Simple; for a fault in one Ingredient, overthrows the whole Composition. But I appeal to the judgment of expert Apothecaries, whether there be not above 20 egregious Errata's committed in the choice of the Simples, some being unknown to us, others not to be had, nor brought to us. No one almost but knows what abuse is committed in the choice of Vipers, and that they have not been in use for above these 500 years past, indeed not known; in whose stead are used most poysonous Serpents: And if such a mistake in so clear a matter, what security in the true *Balsam* and *Malabathrum*, so pretious, and fetched from remote Regions? At this day the *Egyptians* put more trust in their Native Balsam, than in any other Remedy. And when good Authours have told wonders of its worth, at last conclude, But 'tis no where to be found.

Our *Myrrhe* also agrees in no way but
scent,

scent, with that describ'd by *Dioscorides*. We want *liquid Ambar*, *Opobalsamum*, &c. or else they bring them to us sophisticate, wanting the true marks laid down by *Dioscorides*, *Galen* and *Mesues*. For *Opobalsamum*, some use the liquor drawn from *fresh Myrrhe*, and call it *liquid Syrax*. But 'tis thought the reason why we have not the true Balm, is that the *Great Turk*, Lord of those Regions where it grows, and that but in small quantities, keeps it for himself, and to present it to other Kings his Friends and Allies; and permits it not to be sold at any rate whatsoever.

No true *Costus*, *Schenanth*, the genuine *Dip-tany* of *Crete*, *Ammomum*, *Calcitis*, *Terra Lem-nia*, *Carpobalsamum*, Wine of *Falernum*. Our *Opium*, as *Mathiolus* witnesses, is not legitimate, and is wholly different from that describ'd by *Dioscorides*, although it be absolutely necessary, since 'tis the Basis of *Treacle*.

I abstain from citing Classic Authors, by whom 'tis disapprov'd, for 'twould be too tedious. *Pliny* inveighs against *Treacle*, as a bad Medicament. The Moderns condemn it as a confused heap of Simples, without order and method, of which the greatest part is unknown, the other frustraneous, and altogether unfit for the cure of malignant diseases.

And

And to conclude, this great Physitian tells us, that *Treacle* as now made is a pernicious Remedy, badly prepar'd, very hot, and will easily kindle a Fever in bodies subject to it. And which is worse, by its inimicous and estuons faculty, is very apt to produce deadly burning in the intrals; unworthy to be placed amongst Antidotes, because it is indued with no virtue, whereby it may prevent or help pestilential Diseases, as being a meer composition of Luxury.

The same may be said of *Mithridate* in use at this day, which cometh nearest to *Treacle*, in its faculties, as being compos'd of most of the same Simples, *Herbarum deforme chaos; rudis indigestaque moles multorum simplicium*; being, by reason of their too fiery nature, acrimony and malignity, averse to our natural heat.

Moreover, the Receipt of *Mithridate*, found by *Pompey* in his Desk, after his death, was made of so few, and those common, things, that he made but very small account of it, and laugh'd at it.

*Antidotus vero multis Mithridatica fertur
Consociata modis, sed magnus scrinia Regis
Cum raperet victor, vilem deprendit in illis
Synthesin, vulgata satis medicamina risit;
Bis denum Ruta folium, salis & breve granum
Fuglan-*

*Juglandesque duas totidem cum corpore ficus :
Hac oriente die parco conspersa Lyæo.
Su nebat metuens, dederat quæ pocula tutor.*

So that by these Verses it appears, that it was compos'd of only two dry'd Walnuts, so many Figs, twenty Leafs of Rue; with a few grains of Salt, which he took fasting against Poyson; but this may serve for three or four Doses. Now if any dislike this simple Antidote, let him use this following *Opiat*.

4. *Of the conserve of bugloss, borage, water lilies and Roses, an. ℥ii. the conserve of marygold flowers. 3x. make an Opiatum with syrup of limons; Dose, the quantity of a Nutmeg fasting, drinking a little White-wine after.*

This is a most temperate *Opiat*, causing no heat, or unnatural or undue ebullition of the Blood. But the Learned Dr. *Primrose*, though he cannot commend this, or *Treacle*, may be for the same Reasons that Dr. *Patin* disallow'd them before, yet he would have both kept in shops, or only *Treacle*, for reverence to Antiquity. For besides many things that we want, as in *Mithridate*, so there are many things not well prepar'd, as *Trochisc. de Viperis, Scyllitic.* many are needless, as *Calcutis, &c.* Not that 'tis hurtful in so small a
F quantity,

quantity, for what evil can there be in the 16 part of a grain to 3i. of *Treacle*, which is a common Dose? And why should not the decoction of the Squills suffice to mix with the rest, unless you will keep them longer, and then let them be kept condited with wheat-flower and sugar: then the Vipers, they are made into Troches with wheat flower, but 'tis to be fear'd all their virtue goes away in boiling; so they had better be calcin'd: of their flesh, the fat and gall, heads and tails are made Mummy; cut small and wash'd in Brandy mix'd with Aloes, Myrrhe, and Jewish *Bitumen*, and other dryers, the Spine calcin'd, may be made those Troches.

But then if such Medicines must be retain'd, if I might be worthy to advise my Countreymen, I would have them to make use of that well contriv'd *Treac'e* of the Learned College of Physitians of *London*, than which I know not a better, and that may serve in lieu of either *Treacle* or *Mithridate*, as before; as likewise for the Electuary of the Egg, which may very well be wanting for several Reasons too long here to recite.

As for *Confectio Alchermes*, 'tis true, 'tis a pleasant one, yet the Pearls and Gold are needless, as not being cordial at all; or if they were, there is no Analogy between our
natural

natural heat and them, as to assimilate or overcome them.

The same may be said of *Confectio Hiacynthi*, and the rest of such stuff.

But methinks I hear some saying, If you deprive us of the use of these Medicines, &c. What will you substitute in their stead?

I answer Wine, either generous or other, according to the temper of your Patient, *Cardiacum quippe Cardiacorum*; or you may put some Syrup of the juice of Citrons, or Limons, or *Melisophili*, *Mentha*, *Caryophyllor. de pomis alterans*, *Julap. Regium*, or *rosatum*, or *Julap. violar.* or the like, according as the nature of the Disease and Patient require; or boil'd with Mace, Cloves, Nutmeg, Rosemary, &c.

And *Galen* used Wine as the great Cordial against *Syncopes* and *Cardiagma's*, and continual Fevers, and not your cordial Pouders, or Opiats, &c. which are very costly, tedious, and often inefficacious; but Wine with less cost, and more certainty and celerity performs its office, in both genuinely nourishing, and as the greatest Antidote resisting Poyson, far more infallibly than your fictitious, adulterate Bezoar, Corn. Unicorn. *Monocerot.* or whatsoever other *Quisquilie*, introduc'd erroneously into the practice of Physic, never used by *Hippocrates* or *Galen*, or any of the

ancient *Grecians*, that left us the true way of practising Physick for the good of Mankind; and not those *Arabians*, who were a sort of People very like your Quacking, Empirical Chymists at this day, in burthening the World with such an infinite number of naughty, superfluous, and some poysonous Medicines, when as those few used by the *Grecians*, were altogether safe and salutary; yet might the judicious profit by many of their writings, being first well grounded in the *Grecian* Doctrine, if their Books were genuinely Translated: But they are so badly done, that they are not to be trusted to by any of a mean capacity or judgment.

To conclude, the use of Wine is prodigious and admirable, if wisely prescrib'd, far beyond any Mithridate, or sort of Treacle, or such like trash, that go vulgarly under the name of Cordials, all which it as far excels,

Quantum lenta solent inter viburnæ Cupressi:

And are but despicable, in comparison of it; the chief Cordial, as alone, having the true properties of a Cordial, viz. to nourish, calefie, humect, purge, and corroborate.

Lastly, the great *Plutarch* tells us, that that raging Pest in *Africa*, which did so depopulate

late *Julius Caesar's* Army, could no way be mitigated, but by administring generous Wine to the Soldiers, by which, as by a Divine power, it presently ceas'd. As for *Martials*.

*Profcit poto Mithridates sape veneno,
Toxica ne possint sava nocere sibi.*

'Twas by custom that it profited him; and there are a great number of Stories, of people that have eaten great Doses, without any hurt, of Hemlock, Ellebore, Spiders; which is the more to be wondered at, because these are most poysonous, so that some have dyed by drinking Wine only, wherein a Spider hath been by chance suffocated.

Serpents, wherein some have been called *Ophiogenes*, as it were begot of Serpents, because they feed onely on them; which the Story of *Exagon* confirms, who, by the Command of a *Roman* Consul, being put in a Hogshhead fill'd with Serpents, receiv'd no hurt, as *Pliny* witnesses, but came out as merry and blithe, as he went in.

Opium, of which one *Lysci* is reported to have eaten half an Ounce at one Dose, without any damage.

Julius Caesar Scaliger, that incomparable Philosopher, asserts that the *Turks* most frequently

quently eat *Opium*, whereby they are more couragious in the Wars both of *Mars* and *Venus*.

And the most learned Physician *Renodius*, saw a Woman eat half an Ounce daily without any offence.

Anton. Musa Brassavolus, saw one swallow two drachms of Scammony, which only mov'd him four or five times.

And *Fallopins* knew a studious *German*, that devour'd an Ounce of Scammony, and was never mov'd: And thus you see that Objection answer'd.

Thus have I given thee the *Secretum Secretorum Secretissimum*, as to Cordials, which assure thy self, if thou be ingenious, will serve thee to discover more vulgar Errors, in administering other Medicines: so that thou feest for *Mithridate* and *Treacle*, you may better use *French* or *Spanish Wine*, *Diascordium*, or *Confect. Alchermes*; or if only to provoke Sweat, as many use it, the learned *Wallaus* tells you, that it is onely done by the virtue of *Opium*, for he tryed them both without *Opium*, and they would scarce cause sweat.

But if you will use *Treacle*, for all these *Caveats*, then you must be sure to have it from *Venice*, or *Montpelier*, which doth the effects of *Mithridate Damocratis*, and is good against the hoarsness of the Voice, against the
Jaur-

Jaundies, Dropsie, for wounds in the Intestines, to bring forth the young Birth dead, to expel and take away the Leprosie, and Measles, to revive every decayed Sense, to kill all kind of Worms, to dissipate wind, to comfort the heart and stomach, and to keep the body incorrupt and sound.

Theriaca Diatesseron,

OR the poor Man's Treacle, is good against Poyson drunken, and the bitings of venomous Beasts or Worms. It is also good against all the cold affects of the Brain, as Convulsions, Resolution of the Sinews, Falling-sickness, Cramp, Spasme, the inflation of the ventricle or stomach, against the defect of concoction therein, and against venomous wounds, both inwardly drunk, and outwardly applied. Also it openeth the obstructions of the Liver and Spleen, and thereby preserveth the Body from the Disease called the Scurvy. It procures Sweat very well, being taken in Sack, but is mighty hurtful to women with child, as may be easily known by the Ingredients, which are as follow :

4. *Gentian, Bayberries, Myrrhe, Round Birthwort, of each ℥ii. Husk your Berries, and powder and searce them; and your Gentian and*
F 4. *Aristolo-*

Aristolochy must be sliced and dryed in a folded paper, and so powdered and searced, then dissolve your myrrhe in a little sack and put to it of the best honey despumed, ℥ ii. and then sprinkle in your powders, and incorporate them well on the fire; to which being added two ounces of rasp'd Ivory, 'tis then call'd *Diapente*.

Confection of Alkermes.

IS a preservative from Apoplexics arising from cold and melancholy humors, doth very much comfort the brain and heart, and is sometimes used very profitably for them that languish away by reason of long sickness, and are subject to swoonings. It is thus compounded:

4. The juice of *Paremain*s or *Pippins*, of the sweetest *Rose-water*, of each ℥ i℥. syrup of the juice of *Kermes* ℥ ii. sugar ℥ i. boil them almost to the consistence of hony, then bring it from the fire, and yet warm, add *Ambargriese* cut small and dissolv'd in drops of *Ol. Cinam* q.s. ℥ ii. then cast in these following finely powdered, of the best *Cinnamon*, the wood of *Alees*, an 3 vi. leaf gold, 3 i. pure musk, ℥ ss. make it up according to Art,

Methridate,

IS in quality and virtue like unto Treacle; but more hot and forcible against the poyson of Serpents, mad Dogs, wild Beasts, creeping things. Being used as a Plaster, or drunk, it cureth all the cold affections of the Head, helpeth the melancholick, or those that are fearful of waters. Them also that have the Falling-sickness, Megrim, pain in the Bowels, Ears, Tooth-ach, and weeping Eyes; helpeth the evils of the Mouth and Jaws, being plaster-wise laid to the temples; by discussion giveth ease to the troubled with the Squinancy, Apoplexy, Cough, spitting of Blood, Imposthumes, or Inflammations of the Lungs, or any Grievs within the Body. And it is good against the Bloody Flux, Flux of the Stomach, obstructions of the Guts, and against wringing, and tortions in them. Being taken with *Aqua-vitæ*, and the decoction of Balauſtians, it remedieth Convulsions and Palsie; helpeth the Midriff, wind in the Hypochondria, the pains of the Reins and Bladder; breaketh the Stone, provoketh Urine, and monthly Flowers, expelleth other vices of the Matrix; yieldeth a singular benefit for the Gout; profiteth not a little in Quotidians and Quartans, a quantity drunk in Wine being

FADE MECUM: Or,
first warmed, and then taken an hour before
the Fit.

Diacydonium Simplex, is

Good against Vomitings and Fluxes, &c.
and thus made :

℞. Of Quinces cut small, and boild in
sweet water to a thicknes, ℥viii. white sugar
depum'd and boild to a just consistence ℥vi.
boil them to a thicknes.

N. B. When you give Medicines to stay Vo-
miting give them after Meals; when for Flux-
es, before.

Elect. Lenitivum, is

Given in Fevers without hurt, Dose to
℥ii.

℞. Raisins stoned, fresh Polipody of the Oak,
Senna, an. ℥ii. Herb. Mercury, M. i℥. Injubs,
Sebestens, an. No. xx. Maiden-hair, Violets,
French Barley, an. M. i. Damask Prunes,
Tamarinds, an. ℥vi. L'quirice ℥℥. Boil them
f. a. in five quarts of water, to the dissipation of
the third part; then strain them hard, in part of
which warm, dissolve Pulp of Cassia, Tamarinds,

new

new Prunes, Sugar of Violets, an ℥vi. in the other part dissolve ℥ ii. of Sugar: lastly, add Senna powdered ℥i℥. aniseeds powdered ℥ii. to every pound of Electuary, and so bring them to the form of an Electuary, *f. a.*

This may be in lieu of Diaprun. & Carbolicon.

Elect. E Succo Rosar.

Purges Choler and Phlegm strongly, Dose to ℥i.

4. Sugar, juice of red Roses depurated in the Sun, an. ℥i. and ℥iv. all the sanders, an. ℥℥. Mastich, ℥ iii. Diagryd. ℥ xii. Camphor. ℥i. let the sanders be rasp'd, and then accurately powdered, and searc'd, to them add Diagrid, powdered apart with a drop of Ol. Amygdal. dulc. then the Camphor likewise reduc'd to Powder, and Mastich finely powdered; lastly, with the juice of Roses boil'd with sugar to a syrup, and warm, *F. Elect. f. a.*

Confectio Hamech,

Purgeth Choler, Melancholy, and salt Phlegm, and is therefore with great benefit used against Diseases arising from the same, the Cancer, Leprosie, or dry Scurf, Mad-
ness,

108 *VADE MECUM*: Or,

ness, Ring-worm, Itching, Scabs, and the like ;
the Dose is six drachms in Fumitory-water ;
Posset-drink, &c. it is thus made :

Rx. Bark of yellow Myrobalans, ℥ ii. black
and chebul ones, violets, pulp of coloquintida,
polyody of the oak, of each ℥ i℥ss. wormwood,
thyme, of each ℥ ℥ss. aniseeds, fennel-seeds, red-
rose leaves, of each ℥ iiii. beat them, and steep
them in six pints of whey one day, then boil them
to three pints, and strain them, and to the liquor
add juyce of fumitory, pulp of prunes, and rais-
ins, of each ℥ ℥ss. white sugar, despum'd honey,
of each ℥ i. boil them to the thickness of honey ;
when it is almost boiled enough, sprinkle into it
agarick trochiscat, senna powdered, of each ℥ ii.
rubarb powdered, ℥ i℥ss. epithymum, ℥ i. diari-
dium, ℥ vi. cinnamon, ℥ ℥ss. ginger, ℥ ii. seed of
fumitory, and a rise, spikenard, of each ℥ i. make
them into an Electuary, *f. a.*

Diacatholicon,

GEntly purgeth all humors, it is conve-
niently used in Clysters, in Fevers, and
other Diseases, which arise from a certain evil
disposition of the Spleen and Liver ; the
Dose is to ℥ i℥ss. the composition is as follow-
eth :

Rx. Pulp

℥ Pulp of cassia, and tamarinds, leaves of senna, of each ℥ii. polypody, violets, rhubarb, an. ℥i. anniseeds, penids, sugar candy, liquirice sliced, seeds of gourage, pompions, cucumbers, melons, of each ℥ii. beat those that are to be beaten, then take fresh polypody bruised, ℥iii. fennel seeds, ℥vi. boil them in four pints of fountain water, to the wasting of a third part, strain them, and put to the liquor 2 pounds of the best sugar, boild to the thickness of a syrup, then to the pulps, dissolv'd in part of the decoction, pour on the syrup by degrees, then add the pouders, that it may be made an Electuary, f. a.

Of Diascordium.

IT is an Epitome of *Mithridate*, availeth in the Plague and pestilential Fevers, Fluxes of the Belly, Tertian and Quartan Agues, and other diseases, where *Tberiaca*, and other great Antidotes may not be given, as is often to Children and Women with Child; 'tis given with water of wood sorrel, or the like. *Fracastorius* the Author, gave it thus to those that were infected with the Pest.

℥ Of the juice or syrup of wood sorrel, ℥ii. the juice of citrons or limons, ℥i. diascordium, ℥i. the cordial species with gems, ℥ii. vinegar, ℥i. mix them for one dose, to be repeated as occasion shall offer. In lieu of the cordial species, you may

may use *Alchermes*, without gold and pearles, as before. 'Tis thus made :

℥ Cinamon, *cassia lignea*, of each ℥ss. true *scordium*, ℥i. dittany of Crete, tormentil, bistort, galbanum, gum arabic, of each ℥ss. opium, ℥iss. *styrax calamit.* ℥ivss. sorrel seed, ℥iss. gentian, ℥ss. bole armenac, ℥iss. sealed earth of Lemnos, ℥ss. long pepper, ginger, of each ℥ii. white dispumed honey, ℥liiss. sugar of roses, ℥li. good canary wine, ℥ss. dissolve the gums in the wine, and then mingle the rest according to Art, to the form of an Electuary.

Of Pills, and first in general.

Pillula is a diminutive of *Pila*, so call'd from its spherical and round figure; the *Greeks* call them *catapotia*, from *catapino*, *devoro*, because they are swallow'd without chewing; this figure was invented by the Ancients, to accommodate and please the humors of Patients, that could not so well take Potions, or other liquid forms of Medicines, as solid Pills; and that they might draw, from the farthest parts of the Body, all tough and viscous humors, by reason of their being not so soon dissolv'd as Liquids, and so stay longer in the Body.

Now

Now of Pills, some are Altering, Anodine, Narcotic, Incrassating, and others Purging; the Base of the Purgings is usually Aloes, adding, if you see cause, any other Purgers, with their Correctives, and such as promote the cathartic quality; to which may be added Gums, Lachryms, Juices, all dry things, which may be form'd into Pills with any convenient liquor, as Honey, Syrup, Mucilage; but if you add Gums, a thinner liquor will serve; the Gums and Lachryms being purged and depurated from their fæces, stir them in a warm mortar and Pestle till they grow soft, put in their Powders by little and little, pouring on as much liquor as your mixture requires; then rub over the whole mass with oil of sweet Almonds, and within a parchment or bladder oil'd likewise, keep it in a Pill Pot.

For Narcotics, your *Laudanum Londinens.* may very well serve for all, the which how to use you shall have directions.

For Purgings, if you take them at night, let it be when you sup not, after your first sleep, or early in the morning, because else they draw naughty humors to the stomach, they corrupt the meat you have taken, pluck and gnaw the upper part of the stomach, and so many times provoke Vomit, as *Galen* notes *de sanitate tuenda.*

Those

Those thae cannot well swallow them alone, may have them gilt, or may take them in some Posset drink, Wine, Syrup, Broth, yelk of an Egg, pulp of an Apple, stew'd Prune, Raisin, not with their skins, which often hinder them from dissolving in the stomach.

*Now in particular, as to Pills, and first of
Pilulæ Rudii*

Purge ill humors from all parts of the Body, quick in operation, Dose from ℥i. to ℥ii. Never given alone but with *Pil. Imperial. or Coch. &c.*

℥ Colocynth, ʒvi. agaric, scammony, roots of black ellebor, turpet, of each ʒi. aloes, socotorine, ʒi. cinnamon, mace, cloves, of each ℥ii. let the colocynth, being clear from seeds, be cut small, the agaric be rasp'd, ellebor, turpet, and spices grossly beaten, and pouring on as much brandy as to be six fingers breadth above all; let them infuse by a gentle heat for four days, then strain'd and press'd hard, dissolve in the same the scammony and aloes; then put the liquor into a glass alembick, that the humidity being separated (by distillation) there may remain a thick matter of the consistence of honey, of which make a mass.

Aloe

Aloe Rosata

Purgeth the head and stomach very well, and killeth Worms, being made up into Pills, and so swallowed; the Dose is one drachm, it is thus made:

℞ *Aloes succotrine*, of the clearest, made into powder, ℥iv. juice of damask roses purified, ℥i. put them together to the sun, or in balneo, until all the moisture be exhaled, then add more juice, and again evaporate it: thus doe four times, and then put up the mass in a pot close covered.

Pilula cochia minores

Purge Choler and Phlegm from the Head, and all other parts, wherein such humors are contained. The Dose it to ℥i. They are made as followeth:

℞ *Lucid aloe*, the purest scammany, pulp of colocynth. an. ℥i. powder them, and with a sufficient quantity, and equal parts of syrup of wormwood, and buck thorn berries, make a mass s. a. adding ℥ii. of oil of cloves; and thus ordered, they may be either taken alone, or with other Pills; and may serve you, if not better than *Pilula ex Duobus*.

Pilula

Pilula sine quibus, or without which I
would not be.

They wonderfully purge Choler, Phlegm,
and Melancholy; they are most pro-
perly good against the cataract and dimness
of the eyes, preserving the sight, and curing
the griefs of the ears; they also help the pains
and gripings of the upper guts. They are
thus made:

℥ Aloes dissolv'd in juice of roses, and after
dryed ℥xiv. prepar'd scammony ℥vi. agaric,
rhabarb, senna, of each ℥ss. wormwood, red
rose leaves, violets, dodder, mastich, an. ℥i.
salt of wormwood, ℥ss. let the scammony, aloes,
agaric and mastich be powdered apart, then add
the rest, and with syrup made of juice of fennel
with honey, F. massa s. a.

Pilula de Succino

ARe friendly to the Womb, and take away several causes of sterility, good against Catarrhs; Crato was the Inventer, but now alter'd for the better, by the Pen of the learned Physician Sir George Ent, as followeth :

℞ White ambar, mastich, an. ℥ii. best aloes, ℥v. aga i; troch. ℥ss. aristol. long. corn. cerv. ust. an. ℥ss. nutmeg. ℥ss. cum. syr. de absinth. F. Massa.

Pilula Tartarea seu Melanagoga Quercetani.

Purge both bile, thick, tartarous, salt, mucilaginous humors, from the farthest parts; good in quartane Fevers, Madness, Scabs, Venereal Diseases, Cancers, because they purge the Bloud; they may be taken in a morning, and after a light Supper. The Dose is to ℥ss. they are thus made :

℞ Crystal of tartar, ℥iii. polypod. quer. ℥ii. blew currans, ℥ss. flowers of borage, bugloss, nymphae, an. pugil. i. boil them in a sufficient quantity of fumitory and scolopendr. water till half be wasted.

4 Of

4 Of this decoction clarified ℥ii. the juice of fragrant apples purified ℥i. to which add senna ℥iii. turpeth, roots of black ellebor, an. ℥iss. choice myrrhe, ℥i. mace, cloves, cinamon, epithym. an. ℥iss. macerate them four days in a glass vessel in B. M. then strain them, in which dissolve ℥iv. of prepar'd aloes, and reduce them to a due thickness over a gentle fire; when 'tis almost cold, add spec. latif. dialac. an. ℥i. sal. absinth. fraxini. an. ℥ii. essentia croci. ℥ii. with a few drops of oil of anise. F. Massa Pilularis.

Pills of Ruffus

ARe called pestilential, because they are usually given in the Pestilence, or Plague, rather to prevent infection, than cure the infected, the Body being free from excrements by the Aloes, from putrefaction by the Myrrhe, and by Saffron the vital faculties are quickned; they are very stomachical; and where any oppression of the stomach doth require gentle purging, these Pills excel; their Dose is to ℥ii. They are thus made:

4 Of the best aloes, ℥ii. choice myrrhe, ℥i. saffron, ℥ss. make them up with the syrup of wormwood, f. a.

Pilula Aloephangina,

M^Esue says are of his invention, which he call'd so from the Arabick word *Alephangia*, which signifies odoriferous, and aromatic, of which like they are composed. In truth 'tis a fine Pill, and purges the Brain, Stomach, and the sensitive organs from all thick, putrid and pituitous humors, and dissipates the pains caus'd by them, fortifies the Stomach, and its coction. Dose to ℥i. and are thus made :

℥4 Of cinnamon, cloves, the lesser cardamoms, nutmegs, mace, calamus aremiticus, ca pobalsamum, or juniper berries, schenanth, yellow sanders, goat rue, red roses, an. ℥℥. from these grossly powdered, draw a tincture with brandy in a glass vessel close shut, in ℥℥℥. of the streining, macerate ℥i. of pure aloes, to which add mastich and myrrhe powdered, an. ℥℥. saffron, ℥ii. balsam of Peru, ℥i. at length, the superfluous humidity being absorbed upon hot embers, reduce them into a mass.

Pilula Catholica, seu Imperiales Fernelii

Purge gently all sorts of humors from the Viscera, and corroborate them, help
con-

coction in all parts of the body, and for that respect deserve to be call'd catholic. Dose to ʒi. these and the other may be taken alone, or mixt with extract. *Rudii*. They are thus made:

℥ Of aloes, ʒii. rhabarb, ʒiʒ. agaric, senna, an. ʒi. cinamon, ʒiii. ginger, ʒii. nutmeg, cloves, spikenard, mastich, an. ʒi. with syrup of violets, make them into a mass, anointing your hand with oil of sweet almonds.

Pilula Stomachica cum Gummi

CLeanse the inward parts of all offensive humors, strengthen the digestive faculty. Dose to ʒi. you may take them early in the morning, and sleep after them; or you may mix them, and all the other with extract. *Rudii*, or *Pil. Cochiae*. They are thus made:

℥ Of the purest aloes, ʒi. senna, ʒv. gum, ammoniacum, dissolv'd in vinegar of elder, ʒiʒ. mastich, myrre, of each ʒiʒ. saffron, salt of woormwood, of each ʒiʒ. cum syrup. è *Rhamno Cathartico*. F. massa. s. a.

Laudanum Londinens.

INstead of that which is falsely ascrib'd to Paracelsus, set down by Crollius, and others, which was none of his, I have here inserted that of the *London Pharmacopœia*, as being the safest and best prepar'd of any in the world, and without the stinking venomous juice of roots of *Henbane*.

4 Of *Thebiac Opium* extracted in spirit of wine, ℥i. saffron extracted the same way, ℥iiss. castor, ℥i. mix them with the tincture of half an ounce of the species of diambra newly made also in spirit of wine; then add ambar-grise, mosch. an. gr. vi. oil of nutmegs six drops, then evaporating all over a gentle fire in *Balneo M.* make a mass f. a.

'Tis call'd *Laudanum*, quasi *Laudatissimum Remedium*. The learned Dr. *Primrose* could find only his genuine description under the name of an *Anodyne*, which is this:

4 Of opium ℥i. the juices of apples, oranges, quinces, an. ℥vi. cinnamon, cloves, an. ℥ss. digest them for a month in horse dung, press and strain them, then add mosch, ℥ss. ambar-grise, ℥iv. saffron, ℥ss. of the magistery of pearls and corals,

corals, an. ʒss. digest them again a month; but the last are useless, saith this Learned Doctor, else the description is good enough, but the doses are not good, for ʒi. of saffron is enough, and ʒss of ambar; and to add Henbane, is not only unprofitable, but dangerous and hurtfull.

Note. Never administer any Narcotics, before you have tryed Anodines. In bilious Colicks you may mix Laudanum, with some gentle purging Syrup or Electuary, without Scamony or Colocynth; as Syrupus de Cichorio cum Rhabarbaro, Persicorum, de pomis, simp. or magistral. rosaceus solut. è succo rosar. & cum fenna, elect. lenit. catholic. diaprun. &c. whereby you will, as they say, kill two birds with one stone, i. e. remove both cause and pain: But then you must give less of the Laudanum, than the just dose, that it may not hinder the operation of the purgative.

In fine, according to the divers intentions these Narcotics are to be used, so you must give them at different times; i. e. you must give them at night to cause sleep; in the morning to appease pain, and stop immoderate evacuations, as the hemoragie, and hemorrhoids, &c. four hours before or after supper, to incrassate humors in fluxions when too thin. And now you may see that you need none of the Philoniums, or such like, for reasons before specified.

In all sharp pains whatsoever, hot or cold, within or without the body; yea even when through extremity of pain the parties are at deaths door, or almost mad with the vehemency of the same, this Medicine giveth ease presently, yea, and quiet sleep, and that safely, but much better the body being first soluble either by nature or art; I mean by a suppository, or clyster, which is better.

In the Colick with Mint water, or rather syrup of violets, it easeth the griping pains thereof.

In the pains and gravel of the Kidneys, it giveth present ease, and likewise in the Pleurisie.

In pains of the joints it is very good; as also to stay Rheums, Tooth-ach, and other like defluxions, in the beginnings: as namely, in the Tooth-ach, dissolve four grains thereof in Plantan water, and put it into the Ear of the aching side, and take three grains into the body, and lie to rest.

It is a sure help in all fluxes of the belly, whether they proceed of sharp and slippery humors, or whatsoever else offending cause, taken with mastich, *terra sigillata*, fine bole, or with any other appropriate good Medicines, as old Conserve of Roses; it is exceeding sure, for it fortifieth other Medicines, and doubleth their Forces, adding its own also thereto.

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In extreme watchings, and want of rest, either inwardly or outwardly taken, it is profitable; if outwardly you would use it, take four or six grains with three drops of Oil of Nutmegs made by expression, mix them together, and bind them in two little clouts, and put it into the Nostrils, it will marvelously assuage the pain in the head, and cause quiet rest.

In the extreme bleeding of the Nose, called *Hæmorrhagy*, it is an approved Secret, that 16 grains thereof divided into two Pills, and thrust up into the nostrils, into each nostril one part, helpeth the same.

In all kind of Fevers it is good to be given with water of Wormwood, or Pill-wise alone, and if the heat remain after six hours, you may give it the second time, and after that again in like time safely, not exceeding the dose; yet let your own experience lead you, that where you see three grains will not cause rest, in the next potion you may give one grain more, and so increase *paulatim*, but increase not but upon good deliberation.

In burning Fevers it assuageth thirst, and provoketh sleep, chiefly in those Fevers in which the Party seemeth to have some shew of rest, with tedious dreams and slumbers mixed.

In the disease called *Asthma*, and in the
Pthifick,

Ptisick, if it be used in water of hyssop, it will preserve the diseased Patient a long time : it conserveth the natural heat, strengtheneth the spirits, repaireth strength lost : it is also effectual to be given to melancholy people, which are void of reason, and are troubled with the passions of the heart : it is likewise used with good effect against vomiting, and the hickeck, proceeding of wind, faintness, or debility of the ventricle.

In the superfluous defluxions of the excremental, or menstrual blood, it is an excellent remedy with *Crocus Martis*, or red Coral.

In phrensies, and madness, both inwardly and outwardly, it is good mixed with *Aqua vite*, and the temples anointed therewith.

In the Falling-sickness, with Spirit of Vi-triol, or the quintessence of Camphire, also with Oil of Almonds it is usually taken ; but beware you use not this Medicine to any which are feeble through a great Cough, being oppressed with tough phlegm, and shortness of breath, for there it is not good. The dose is two, three, or four grains : if there be looseness of the belly, as is rehearsed, it worketh much better. It is best given in any occasion accompanied with waters, or other medicines, which are most appropriate to the diseases, and parts affected, and yet may very well be given alone in a Pill.

Of Troches, and first in general.

T*rochischs*, are so call'd from the *Greek* *Trochiscos*, i. e. *Rotula*; and 'tis called sometimes *Cycliscos* by them. i. e. *parvus circulus*, *sen orbiculus*, *Artiscos*, i. e. *parvus panis*, *sen pastillus*. The *Greek* name hath ever since been used, and not the *Latine*.

The Ancients had three sorts in use; one which they gave in Potions; another which they put up into the *Anus*; a third, which they us'd outwardly in oyntments. They are made of dry Medicaments powdered, which are to be made up with liquor that is not of any unctions or oleaginous quality, as either some distill'd Water, or Wine, or Vinegar, Juices of Herbs, Mucilages, Honey, Mustum, Syrup, Julep, and so to be dry'd in the shade; they were invented to keep the virtue of the Powders, When you use them, they may be dissolv'd in some liquor, or mixt with Opiates, Electuaries, Pills, or other Remedies.

Trochisci

Trochisci albi Rhasis,

ARe cooling and drying, they are used often in Injections, for Ulcers in the Yard, and other places, with plantan water, &c. they are thus made :

℞. *Ceruss wash'd in rose water*, ʒ x. *Sarcocol*, ʒ iii. *starch*, ʒ ii. *gum, arabic; tragacanth, an.* ʒ i. *Camph.* ʒ iʒ. *make them into Troches with rose water, or womans milk.*

Troches of Agaric,

PUrge phlegm, and viscous humors, they are to be mixt with other purging Medicines, in lieu of Agaric unprepar'd. They are thus made :

℞. *White and light Agaric powdered and searced*, ʒ iii. *macerate them in a sufficient quantity of white or Rhenish wine, wherein ʒ ii. of ginger have been infused, and so make troches.*
f. a.

Trochisci Alkekengi,

ALlay the heat of Urine, and give ease in Ulcers of the Reins and Bladder, and are good in the Stone. Dose from ʒ iʒ. to ʒ ii. they are thus made :

4. The berries of winter cherries, ℥iii. gum, arabic, tragacanth, olibanum, sanguis draconis, pine kernels, bitter Almonds. starch, juice of liquorice, boil armona, seeds of white poppy, an. ℥vi. melons, cucumbers, porrions, gowge, an. ℥ii℥ss. smallage, white henbane, amber, lemnos earth opium, an. ℥ii. with the fresh juice of winter cherry-berries. F. Trochisc.

The white Troche, or pectoral Lozenges,

Good for Coughs and Hoarsness. Their Dose is from ℥ss. to ℥i. and are thus made :

4. Of the finest sugar, ℔ i. white sugar candid, penids, of each ℥iv. oris roots from Florence, ℥i. liquirice, ℥vi. starch ℥ss. with a sufficient quantity of the mucilage of gum tragacanth extracted with rose-water, F. Trochisc. a. to which if you will, you may add four grains of ambar-grise, and three of mosch.

The black Troches,

Good likewise for Coughs, are made as followeth :

4. The juice of liquirice, whitest sugar, an. ℥x. gum tragacanth, bitter almonds blanch'd, an. ℥vi.

℥ vi. with a sufficient quantity of the mucilage of quinces extracted with Rose-water, make Troches.

Troches of Ambar,

STop fluxes of blood in any part of the body, &c. are thus made :

Rx. *Ambar*, ℥i. *harts horn*, gum, *arabic*, red corall burnt, *tragacanth*, *acacia*, *hypocistis*, *pomgranate flowers*, *mastich*, gum *lacca* wash'd, the seeds of black poppy scorcb'd, an. ℥ii. & ℥ ii. thus, *saffron*, *opium*, an ℥ii. with a sufficient quantity of the mucilage of the seeds of *fleawort*, extracted with *plantan water*. f. Trochis. ℞ a.

Gordonius's Troches,

ARe good against any inward Ulcers, as Reins and Bladder, &c. and cool the body in Feavers, dose to ℥i. in syrup of marshmallows; or *de mucilagibus*; and they are thus made :

℥. Of the four great cold seeds unhusk'd, white poppy, mallows, cotton, porcelane, quinces, myrtles, gum, *tragacanth*, *arabic*, pistieh nuts, pine-nuts, sugar, candy'd, penids, liquirice slic'd,

french barley, the mucilage of the seeds of fleawort, sweet almonds blanch'd, an. $\mathfrak{z}\text{ii}$. bole armoniac, sang. draconis, spodium of ivory, red roses, myrrhe, an, $\mathfrak{z}\text{ss}$, with q. s. of hydromel. f. trochisf.

Trochisc. Hysterici,

SERVE in Fits of the Mother, provoke Months, expel Afterbirth, &c. dose to $\mathfrak{z}\text{i}$. they are thus made :

℞. Of *assa fetida*, galbanum, an. $\mathfrak{z}\text{ii}\mathfrak{ss}$. myrrhe, $\mathfrak{z}\text{ii}$. castor, $\mathfrak{z}\text{i}\mathfrak{ss}$. roots of *asarabacca*, long birth wort, leaves of *sabine*, mother-wort, nep, an. $\mathfrak{z}\text{i}$. *dictany*, $\mathfrak{z}\text{ss}$. with the juice or decoction of *rue*. f. Trochisf. s. a.

Troches of Rhabarb,

ARE of an attenuating and strengthening quality, purging Choler, as well by Urine as Siege, good against the Dropsie, Jaundies, and obstructions after Fits of Fevers, &c. dose to $\mathfrak{z}\text{ii}\mathfrak{ss}$. they are thus made :

℞. Of the best rhabarb, $\mathfrak{z}\text{x}$. eupatory, bitter almonds, an $\mathfrak{z}\text{ss}$. red roses, $\mathfrak{z}\text{iii}$. of the roots of *asarabacca*, madder, indian spike ; the leaves of

of wormwood, anise seed, and smallage seed, an.
3i. with wormwood wine f. Trochis. f. a.

Trochis. de Spodio,

COol and bind, allay heat in Fevers, stop
Fluxes, and strengthen the retentive
faculty, and are thus made :

*Rx. Of red roses 3xii. spodium ex ebore, 3x.
seeds of sorrel, 3vi. seeds of procelane and co-
riander, first macerated in vinegar, and then tor-
refied, the pulp of sumach, an 3iiss. starch
parched, flowers of pomegranates, berberries, an.
3ii. gum arabic scorch'd, 3. iiss. with the juyce
of unripe grapes, f. Trochis. f. a.*

Thus have I given thee the way of com-
pounding the Medicines both inward and
outward, that are most commonly used for the
curing of diseases incident to the body of
man, and which are made up by the Apothe-
caries, and sold in their shops. I have like-
wise given thee their virtues and doses, and
manner of using them ; notwithstanding all
which I have something farther to advise the
young Artist of, concerning their Composi-
tions in general, and first of Waters.

For the simple distill'd Waters, they, for the
G s most

most part, participate of the nature of simple from whence they are distill'd, whether hot, or cold, or temperate : neither is there a necessity that the Artist should keep so great a quantity of them by him, for a few may suffice ; as for the waters of cold herbs they differ but little from ordinary cold water, only they are used in winter, when the herbs cannot be got green ; for the hot, *aq. card. benedict. betonica, angelica, calaminth, feniculi, hyssop. melissa, petroselini, &c.* may suffice.

And here let not the young Artist believe that the waters of *Peony*, or *Mistleto* of the Oak, will specifically cure the Falling-sickness; or the waters of *Primroses* the Palsie, as *Quercetan*, and other Empirical Chymists, foolishly prattle ; but only as they are prevalent against such and such an humor, from whence these kind of symptoms proceed. 'Tis likewise false which he writes, that some waters are cephalic, as of betony, marigold flowers, &c. which are preparers of phlegm, for these being drunk, do no less correct the humors in the Hypochondria's, than in the brain. 'Tis likewise false, that the water of ashen leaves is a specifical remedy against deafness ; something indeed may be said, if you mix its salt therewith, and then any other salt, as wormwood, may be as effectual.

al. Your celandine, eye-bright, fennel waters, &c. are no more opthalmic, than nephritic, or cephalic, &c. So of those they call cordial, hepatic, splenetic, &c. for they only alter the humors, be they either thin or viscid, and so benefit the stomach, reins, and other parts. It doth not follow that the simples, from whence the waters are distill'd, are good for such and such diseases, *ergo* the waters are, at least not specifically, as Onions apply'd to the biting of a mad Dog, is good, but the distill'd waters of them are no better than others, &c.

For compound Waters, they are made of hot simples, for the most part with Wine or Brandy, &c. distill'd, as *aq. cœlestis*, *mirabilis*, &c. of which one may serve for all; where you are to Note, that all the simples of those waters cannot infuse their quality into the Wine, Brandy, or other Liquor in which they are boil'd, infus'd, or distill'd; sometimes the *menstruum* is not proper to extract them, whence the strength of some of them is extracted, and the rest not touch'd; some of them are moist, exhalable, vaporous; some must be distill'd apart, some with other things, &c. and then to add honey and sugar, as *Quercetan* and others oft do, is not only, needless, but hinders the distillation; for they

they swim upon the liquor, produce froth, are of thick substance. Likewise to add coral, pearls, and gold, &c. is unprofitable, for nothing exhales from these by the Alembic. Moreover, they call some waters apoplectic, epileptic, hysteric, but vainly, as before; they have likewise their whimsical Treacle waters, which they make of the aforesaid simples, adding thereto Treacle and Mithridate, *Confectio Alchermes, de Hyacintho*, &c. from whose simples nothing can be distill'd, because they are chiefly precious stones.

Now the Artist may take notice that there may be most excellent cordial waters prepar'd from Aromatics, by infusion onely in Wine or Brandy; as for example:

℞. *Cinam.* ℥i *zinzib.* ℥ii. *caryophyllor.* galang. *cardamom.* *nucis moschat.* *granor. paradisi,* *piper. an.* ℥i℞. Infuse them altogether in Brandy in a vessel well stop'd, for some days.

So much for hot distill'd Waters, so much cryed up by *Quercetan*, and the Pseudo-chymists. The same errors are remarkable in their cold distill'd Waters, where he distills them with *bole-armonia*, *terra sigillat*, &c. which, as you was told before, will not impart any of their virtues in distillation; so that

that *Quercetan's* water for the phthysic, and ulcer of the lungs, and pleurisie, are naught, and all that contain such ridiculous, idle trash; such is his water against all kind of Fevers. What, I pray, could any of our Doctors of the Post have said more? For assure your self, they cannot be for all sorts of Fevers, nor at all times. And that water which he says will break the stone in the bladder, is a notorious one, for there is no such thing in *rerum natura*, as the learned *Primrose* hath demonstrated, in his fourth Book of *Popular Errors* in Physic.

What I said of Waters, I may say of Syrups, there is no necessity of keeping so many in a readiness, as are usually in the shops, many consisting of the same simples, or equivalent; and I think those I have set down may suffice upon all occasions. *Quercetan* indeed hath many descriptions of altering and purging Syrups, but he often promises more than he can perform; as when he says he can, by digestion alone, concoct crude things, dulcorate bitter ones, rectifie sharp and tart ones, without addition of sugar. Many of his Syrups, if made according to his direction, are more like Conserves, Sapa's or Robs, than Syrups. He likewise shews himself ignorant in the Art he would correct, when he
advise,

advise, after many unprofitable infusions in Syrup of Roses, and others, to make digestion and depuration, to separate the thicker feces, which clarification with the white of an Egg will never doe; but digestion doth not separate the feces, but by delay and time, even in a cold place they will settle to the bottom, as Apothecaries know; and then the white of an Egg does not make any thing for the separation of the thicker feces, but for the depurating the sugar, and taking away the filth which swims on the top, whence after that digestion and mixture of the sugar, there will be need of clarification by the white of an Egg, which he omits.

Next he adds, Spirit of Vitriol or Sulphur, to his Syrups, and then, I pray, what virtues will they not acquire? so that Syrup of Violets will be an universal remedy, and perform the office of all acid Syrups; as of Sorrel, Limons, Verjuice, Oranges, &c. as if besides the taste they contributed nothing of virtue to the Syrups; or as if a few drops of the Spirit of Sulphur or Vitriol, would equal those virtues: no, no, assure thy self that the juices of Citrons, Limons, Oranges, Sorrel, &c. are more excellent for inward uses, and safer, and gratefuller.

How ridiculous is he when he comes to *Oxymels*, who, that he may prefer Honey before Sugar, calls the faculties of *Oxymel* vitriolate: as if Vinegar and Sugar had not the same faculties; neither indeed is either endued with any vitriolatish faculty; honey hurts cholerick natures, so doth sugar, but honey more; the vinegar temperates the acrimony of both. *Nicolas* and *Mesues*, authentic Galenists have many descriptions of *Oxymels*, which, in my mind, are far better than *Quercetan's*; so that that Chapter of his may seem to be added rather for ostentation than use. The same may be said of his *Hydromels*, where he prefers honey before sugar.

Now for your *Lobochs*, you cannot keep them long, 'tis best to make them fresh; they all incrassate, by reason of the honey and sugar, and other viscid matter whereof they are compounded; which being mixt, renders a thinner also viscid, as sugar candy makes any thin humor which it is mixt with glutinous, whence such remedies do incrassate the stomach, but in the stomach and intestines there is made a separation of the thinner from the thicker parts, which cannot be done by the lungs; but what portion falls upon them is by *anacanthasis*, to be purg'd out again
and

and then perhaps 'tis more incrassated by staying; so that when any prescribe *Lohoch de portulaca*, and such like, in spitting of blood, and add *Trochisc. de terra lemnia*, there is danger, lest if these arrive to the lungs, they stuff them, and cannot be gotten out.

As for *Pouders*, there are many needlessly kept in shops, both altering and purging, and many consist of the same simples, some more, some fewer, put onely in a different order; so that they are all as it were one Powder.

So that of all the hot *Pouders*, as *Dianisum*, *Diagalanga*, *Diacyminum*, *Dianthos*, *Rosata Novella*, &c. I have laid down *Aromaticum Rosatum* for all; the species *latificans* & *liberans*, besides, those hot things have pretious Stones, Pearls, Gold and Silver, which are altogether unprofitable, as I have shew'd before.

In lieu of *Diacalaminthes*, used by *Galen*, as a remedy against wind and other cold affects of the lungs, and other *viscera*, I have substituted *Diaireos*. For your Species *Diamargaritum frigid.* how can that be cold, when it contains Ginger, Sanders, Wood of Aloes, Myrtle Berries, Contrayerve, &c. all hot? and for the bone of the heart of a Hart,
which

which is a very uncertain Medicine, may always be used Harts-horn. And these may suffice for altering Pouders, the which may be made into Electuaries, by adding Sugar dissolved in proper waters, or with honey.

Quercetan, and his Followers, use many Pouders also, most of which are rather for ostentation, than profit; in one of which he uses Cinabar, a dangerous medicament, if he means the Mineral, and not that which we have not, which is *Sanguis Draconis*. Likewise for the *Vertigo*, *Stercus Pavonis*, which I, and wiser than himself have used, but could never find it answer expectation. His Powder for the Epilepsie consists of certain imaginary Mountains, as *Essentia Corallorum*, *Margaritarum*, most fallacious Medicaments, which he himself knew not; or if he did, it doth not follow that they are Antiepileptical. The same may be said of your Unicorn, Elephant's hoof, Peonie, Mistletoe of the Oak, Bezoar stone; which Pouders, saith he, are to be used with purging, using an Antiepileptic water, and keeping a good order of Dyet for a whole month; which being duly observed, he may or may not be cur'd at last, or if he chance to be, it shall not be by the help of this Powder; nay by this method of his by this Powder, and strictly observing his Rules,

any

any disease curable may, in all probability, be cur'd, and so his powder is of more efficacy than he is aware of: So after general and proper remedies and evacuations premis'd, the Artist may cure a Fever with cold water, and so of other diseases, especially if fit decoctions be used.

Then he hath another Powder for all affects of the Breast, which consists of opening, attenuating, binding, and inflating Medicaments with the imaginary essences of Pearls, and Coral, and Diatragacanth, which are hurtfull for an Asthma, and which hath so many windings and meanders to pass through, that it loseth its virtue, before it can arrive at the wished-for Haven; and if there it should only attenuate thick humors, at that rate it may as well be appropriate to the liver as the lungs, and other *viscera*, which are first saluted by such medicines before the lungs. To pass by his egregious antipleuretic Powder, which is a lye imposed upon young Artists; it consists of such things as retard *anatharsis*, and promote not resolution.

Then follows a marvellous Powder for affects of the Stomach, whose Base is *Radix Aronis*, prepar'd after a singular manner forsooth, because with it's *Sale Aronico*, i.e. its own Salt, as Salt is full of Salt Salt; which Powder is no less pectoral, than that which he
pre-

prescrib'd before for affects of the breast; nay, it may be 'tis more pectoral: and I would fain know why one should not as well reach the lungs as the other?

Whether *Stercus Anseris* be such an effectual remedy for the Jaundies, wiser than he have often tryed, but could not find it answer his Elogiums: But how ridiculous it is for him to think, that any one will believe that those excrements are the quintessences of aliments! it would go ill with those animals that should void their quintessences, which they had more need keep to themselves, for the preservation of their own life.

His Powder *ad Bronchocele*m, goes as well to the foot as the throat.

His Powder for all kinds of *Hernia*'s, is a lye in the very Title; for how can it cure a *Sarcocoele*? it is binding, and so may be good for all affects wherein adstriction is required: And thus you will find all the rest of his pouders to labour under some of these Errors I have laid open to thee.

Now for Troches, which differ little from Pouders; for the way of making them into that form, was invented only that the Pouders might the longer retain their virtues. I have likewise reduc'd them to a far fewer number than I know are usually in the Apothecaries.

thecaries shops; for your Trochisc. of Scills, and Hedecroi, they are only made for your Treacle; which you will not have occasion for, being you are not to make any; and if you were, you'll find the same simple repeated in the composition; nor Trochisc. Cypheos for Mithridate.

In lieu of Trochisc. de Capparibus, de Eupatorio, de Absinthio, Dialacca, &c. I have put Trochisc. de Rhabarb, which may serve for all, in obstructions and hardness, not only of the Spleen, but of all viscera. Troches of Spodium and Ambar, may serve in lieu of Terra Lemnia, Ramich, &c.

Of Electuaries, some are call'd Opiates, because they contain Opium, which is not to temper the heat of the rest; for it self is very hot, but rather to provoke sweat, which breaks forth best in sleep, whence 'tis added almost to all Antidotes.

Of Treacle and Mithridate we have discoursed before; they that have one may be without the other; they may be used before they are six months old, without any crime. There is no need of Electuar. de Ovo, at all, wherein you have others set down, where the Saffron is burnt, and the yolk of the Egg becomes oleaginous, &c. the Philoniums may be wanting likewise.

Quercetan's Treacles are more worthy to be derided than brought to use, as consisting of mere whimsies, so that what I have laid down may suffice to an ingenious Artist.

For Purging ones, I cannot commend many of them, some purge too gently, some too strongly: Those I have given thee are enough.

Quercetan hath divers, as his *Catholicon*, which seems to be some extraordinary thing, and yet consists only of *Cassia*, *Manna*, *Senna*, *Rhabarb*, and *Tamarinds*, so after that manner one may invent Compositions *ad infinitum*.

For purging Pills likewise those may suffice which I have describ'd; in all which it would be very good to use the extract of *Albes*, because in so doing, you would leave many faeces behind. Likewise for gums that enter into the Mass, they would be well depurated with Brandy, Wine or Vinegar. Which two things if the Artist would observe, he would not so much admire those laborious preparations of *Quercetan*.

In his *Panchymagogues* so many juices are needless, for one is sufficient, what Purgers he adds,

adds, are common, as *Senna*, *Agaric*, &c. neither have any of his other Pills any thing extraordinary in them: for even in his Tartar Pills so much admir'd, is there any thing but what swells the mass, and may be spar'd, except the Purgers, which are but few.

Besides purging Pills, there are others, which contain *Opium*, in lieu of all which, *Laudanum Londinens.* may serve; which is the best that ever was invented. *Quercetan* hath a pretty way of preparing *Opium*, forsooth, which he would make one believe is new, but stole it from *Hollerius*, lib. 3. de *materia Chirurgica*, he dries it with the fire till it may be poudred, then he makes an extract with vinegar, by which means the strength of the *Opium* is lost, whereby it procures sleep and eases pains. *Apollonius* of old dried *Opium*, then mixt it with *Castor*; but *Galen* found its efficacy to be lost this way, therefore he thought best to mix it undried.

For Extracts, the Chymists use many, several of which are inutile, as *Extract of Senna*, *Rhabarb*, and other gentle Purgers, because their strength is diminish'd by extraction; neither are they so gratefull or effectual, as the Pouders or Infusions of *Senna*, &c.

Then

Then lastly for Oils, Ointments and Emplasters, &c. I have given thee the best in use, and which may supply the place of any that thou shalt find in the *Pharmacopeia's*.

THE Artift is not only to know the way of compounding his Medicines, if occasion be, but he must also understand the nature of Simples, which are oftentimes used to as good effect as Compounds. He is to begin with Roots; where note that h. stands for hot, c. for cold, m for moist, d. for dry, 1, 2, 3, or 4, are for the degree of any quality, as h. 1. hot in the first degree, &c.

Of Simples.

And first of Roots.

Althea

Mollifie, digest, loosen, mitigate sharpness; chiefly in the affects of the Bladder, Breast, Stone, Pleurisie, Dysentery, bruised and boil'd in milk, outwardly in Cataplasms, &c.

Red

Red Beets, Hot and dry, loosen the Belly by their nitrosity, 'tis an *Errhine*.

Bryony, Purges strongly serous humors, by vomit and stool, dose in substance to ℥i. infusion to ℥ss.

Cichory, a noble epatic, diuretic, c. 2 d.

Comfrey, Great, middle and less, are all vulnerary, inwardly and outwardly good in Ruptures.

Enula campana, alexipharmic, temperate, pulmonic, good for Scabs, &c. h. 3 d.

Eryngo, is epatic, nephritic, alexipharmic, &c.

Fenel, is diuretic, carminative, bechic, strengthens the stomach, increases milk, comforts the sight, discusses wind; ℥iv. of the juice drunk with sugar for 10 days fasting, covered in Bed, cures long Agues, general remedies being first administred.

Lillies, digest, mollifie, maturate; good applied to Corns and Burns.

Parsley, h. d. 3. diuretic; good for Coughs, Courses obstructed, yellow Jaundice, &c.

China, Prevail much in the French Pox, and are good for the giddiness of the Head, take away the pain of the stomach, and obstructions, and are profitable for the Dropsie, Colick, and Gripings of the Belly, move Urine, procure Sweat, and are helpfull against Convulsions, the Palsie, and pains of the

the joynts, and a singular remedy against a Consumption.

Liquirice, is in all its qualities temperate, yet inclining more to heat; it is agreeable to the lungs and breast; rotteth phlegm, moveth expectoration, cureth the cough, helpeth breathing, and is profitable for the reins, taking away the sharpness of the urine, and healeth the sores of the kidneys and bladder.

Polypody of the Oak, is dry in the second degree, openeth the body and bringeth away black choler and phlegm, helpeth the colic, and griping of the belly, and also the obstruction of the spleen, &c. For French Pox, swellings in the joints, pains on the side, rickets; never given alone, but with other purgers, boil'd with an old cock, dose to ʒi.

Salsaparilla, is of a hot quality, causeth sweat, especially extinguisheth the heat of venereal poyson, and is good for the articular diseases, catarrhs, ulcers and phlegmatic humors; principally it is good against the French Pox.

Tormentil, chiefly used in the Pest and other such diseases, where there is a Flux, for the French Pox; there is no vegetable, says *Schroder*, more used in Fluxes than this, Ulcers, &c.

Next of Herbs.

Wormwood, h. d. 3. stomachic, hepatic, splenic, kills worms; ʒi. of its salt in a spoonfull of juice of limons, stays vomiting.

Southernwood, is much of the same nature.

Sorrel and *Woodsorrel*, cardiac and epatic, open, and resist putrefaction, check choler, excite-appetite, quench thirst, whence of incomparable account in simple and pestilential Fevers.

Maidenhair, temperate in quality, usefull almost in all diseases.

Mandlin, of an aromatic savor, attenuates, resists putrefaction, epatic, loosens the belly very gently.

Agrimony, a noble epatic, hydropic, &c.

Ladies mantle, temperate, avulnerary, thickens the blood, therefore good in monthly fluxes.

Brooklime, for the Scurvy and Dropsie, &c.

Dil. augments milk, helps vomit, digests, lessens venery, causes sleep; the tops boil'd with oil, is for anodine and somniferous cataplasms for the head, and clysters.

Angelica, is a Bezoardic, vulnerary, provokes courses, dose of the root ʒi. use it for *Aristolochia*.

Smallage,

Smallage, the same with *Persely*.

Mugwort, is aperient, uterine.

Mouſe ear, h.d.2. binds, abſterges, is ſternutatory and vulnerary, cures ruptures, eſpecially in children.

Burdock, the roots are dry, pulmonic, diuretick, good for the Gout, tumor of the Spleen.

Betony, diſcuſſes, cleanſes, &c. ſpecific for the head, liver, ſpleen, breast, womb, is vulnerary, for Epilepſie, helps the Pox out, and Diſury, Bruiſes, Worms, doſe ʒi. in white-wine, or other proper liquor.

Borage, corrects burnt choler, antihypocondriac, *Ego Borago gaudia ſemper ago*.

Branc-uſſin, an emollient, for Clyſters and Cataplaſms.

Bugloſs, vide *Borage*.

Coleworts, are of a mixt quality, for they looſe and bind, laid to Bliſters after they are broke, and Pleuriſie.

Shepherdſ-purſe, cold, dry, binds, uſed by Peaſants to ſolidate wounds, nor without ſucceſs; and in febrifugous Cataplaſms, applied to the Wrifts.

Calaminth, h. d. 3. opens, is ſtomachical; hyſteric, thoracic, and epatic; helps the cough.

Cardus Benediſtus, h. d. 2. alexipharmic, and ſudorific, cures inveterate and quartane Fevers.

Centaury, h. d. splenetic and epatic, deterring and vulnerary, gently evacuates bilious and phlegmatic humors by siege, and *serum* by the pores; hence profitable in Fevers, Jaundies, Womens monthly suppressions, Scurvey, Worms, &c.

Chereseil, h. d. is diuretic, and resolves coagulated blood, induces sweet sleep.

Ground-pine, h. 2. degra. strengthens the nerves, is diuretic, and emmenagogic, good inwardly and outwardly against the Gout.

Chamomile, h. d. 1. digests, mollifies, is anodine, moves urine, and the courses; of singular use in the colic, &c. used in Cataplasms and Clysters.

Cheledine, h. d. 3. absterges much, carries off bile by siege and stool, sharpens the sight, good in the Jaundies, all inward obstructions: outwardly it helps weakness of the eyes, and ulcers; for which cause some put the juice which flows from the broken stalk into the eyes.

Cichory, c. d. 2. is a very noble epatic, is diuretic, chiefly used in obstruction of the liver, and in Fevers.

Hemlock, good in the tumors and inflammations of the spleen, and other parts.

Scurveygrass, h. d. 3. splenetic, diaphoretic, renders fixt and crude humors, spiritual and volatile, good in all obstructions, and salt tartarous diseases.

Com-

Comphrey, vulnerary inwardly and outwardly, in the Jaundies; obstruction of the liver, retention of urine, ruptures, &c.

Costmary, h. d. 3. stomachic, epatic, nephritic, hysteric.

Dodder. h. 1. d. 2. absterges, corrects melancholy, scabs, &c.

Diptany of Crete, h. d. hysteric, alexipharmic.

Dwarf-elder, h. d. discusses, moves sweat, appeases pains of the Gout, good in *hernia aquosa*.

Endive, vid. *Chichory*.

Liverwort, h. d. mundifies the blood, a little binds.

Horsetail, c. d. 2. binds, thickens, stays hemorages, ulcers of the reins and bladder.

Maudlin, h. d. attenuates, is epatic and vulnerary, good in chachexies, catarrhs, coughs, courses retain'd.

Eyebright, h. d. 2. is ophthalmic, cephalic, used in defluxion of the eyes, and elsewhere.

Strawberry-leaves, c. d. bind a little, diuretic, oft used in Gargarisms, &c.

Fumitory, is splenetic, epatic, strengthens the inwards, purifies the blood.

Ground ivy, h. d. vulnerary, often used in resolving the Tartar, in the lungs and other parts,

150 *V A D E M E C U M*: Or,

parts, good in erosions and ulcers of the *viscera*, &c.

Rapture-wort, c. d. of chief use in Ruptures, diuretic, cuts tough mucilage in the stomach, and other parts, carrying off bile and serum.

Moufear, is said, by a peculiar property, to help ulcers of the lungs, and spitting of blood.

Henbane, c. 3. d. 1. mollifies wonderfully, causes sleep, narcotic, used in hot tumors, gout, tooth-ach.

St. Johns-wort, h. d. diuretick and vulnerary, of chief use in mundifying and consolidating wounds, in resolving coagulated blood, driving out worms.

Hyssop, h. d. 3. attenuates, its chief use is in tartarous diseases of the lungs, cough, *asthma*; some prefer it in strengthening the stomach before Wormwood.

Masterwort, h. d. 3. alexipharmic, resolves the tartar of the lungs, in the tooth-ach, in lotions for scab'd heads, laid upon bullets to draw them out.

Lettuce, c. 3. d. causes sleep, bridles choler, increases milk, gently moves the belly, of good nutriment.

Ducks-meat, c. moistens, used chiefly to extinguish heats and inflammations of blood, outwardly in malignant scabs.

Privet,

Privet, c. d. cuts and binds, in inflammations, exulcerations of the mouth, and Scurvy.

Majoran, h. d. chiefly in diseases of the head, womb and stomach, used in Eryhina's and Masticatories.

Mallows, moderately hot, humect, anodine, loosen the belly, mitigate sharpness of urine; outwardly in cataplasms, &c.

Marshmallows are stronger.

Horehound, h. 2. d. 3. used in obstructions of the liver, &c. spitting blood, difficult birth, &c. boil'd with raisins and liquirice.

Motherwort, h. 3. d. 2. chiefly for the womb, purges by urine.

Melilot, h. 1. discusses, mollifies, anodine, outwardly in cataplasms.

Balm, h. 2. d. 1. of great use in cephalic diseases, is cardiac, hysteric, in epilepsie, vertigo, &c.

Mint, h. d. 3. used in crudity, vomit, wind, weakness, hicop of the stomach, obstruction of the liver, pains of the guts, vertigo, hinders milk from coagulating.

Mercury, h. d. 1. moves the belly, purges choler and water, often used in Clysters.

Millefoil, or *Tarrom*, dries, binds, used in tumors and inflammations of the yard, and other places, without any repulsion, in hæmorages and fluxes of all kind, stoppage

132 *VADE MECUM*: Or,

of urine, tooth-ach, masticated, ruptures,
&c.

Water cresses, h. d. 2. used chiefly in the gravel, and obstructions, a Specific in the Scurvy.

Tabasco, h. d. 3. absterge^s, is sternutatory, masticatory, vulnerary, chiefly used outwardly; 'tis narcotic, heals scabs, mundifies ulcers, a violent vomit, to be given with great caution.

Thorowax, h. d. used in fresh wounds, *Enterocoles*, swell'd joints, *Struma*, either inwardly or outwardly.

Plantan, c. d. 2. epatic and vulnerary, used in a'll kind of Fluxes.

Self-heal, h. d. vulnerary, and consolidates.

Penyroyal, h. d. 3. used to stir courses, epatic, pulmonic, dissipates gripings, drives out the Stone and Urine, heals the Dropsie and Jaundies; outwardly for the Gout, cleanses the Teeth, cures the Itch.

Lungwort, c. d. consolidates, for the phthisic, spitting of blood.

Oak-leaves and buds, dry and bind, for the tooth-ach, &c,

Cinquefoil, is a temperate vulnerary, used in catarrhs, pallsie, phthisic, gout, in correcting the moistness of the womb, spitting of blood, and cough, jaundies, obstruction of the liver

liver and spleen, obtunds the acrimony of Choler, stops all Fluxes, good in the Stone, and erosion of the Reins, *Hernia's*, Fevers; outwardly good in inflammations of the eyes, the juice being instill'd, in putrefaction of the mouth, looseness of the teeth, and absterges malignant ulcers. In tertian Fevers they give three Leaves, in the quartan four; some commend the Root held in the hand, to stay the bleeding at nose.

Rosemary, h. d. 2. cephalic, epatic, splenetic, hysteric, stays fluxes, and comforts the heart.

Rue, h. d. 3. alexipharmic, cephalic, &c.

Sabine, h. d. 3. used in provoking months, and *asthma*, outwardly to cure spreading ulcers, dry scabs in childrens heads, with cream to take away spots in the face.

Willow-leaves, cool, dry and bind, without any sharpness.

Sage, h. 1. d. 2. absterges, binds a little, diuretic, procures *menses* by attenuating, and moderates them when they flow too much; good in Palsie, Vertigo, Catarrhs; good in Gargarisms for *Aptha's*, &c. Lastly, 'twas of such esteem with one, that he asks,

Cur moritur homo cui salvia crescit in horto?
And answers himself,

Contra vim mortis non est medicamen in hortis.

Sanicle, h. d. binds, vulnerary, inward and outward.

Savory, h. d. 3. attenuates, good in crudity of the stomach, asthma, obstruction of the months, outwardly discusses tumors, and appeases pains of the ears.

Saxifrage, h. d. 3. diuretic, chiefly used for the Stone in the Reins and Bladder.

Scabiose, h. d. 2. alexipharmic and pulmonic; good in Apostems, Pleurisie, Angina, Cough, Asthma, Plague, Fistula's, &c. outwardly in Scabs and Itch, Tinea of the head, spots of the face, pains of the hæmorrhoids, used in fumes.

Spleenwort, used in hardness of the spleen, jaundies, moves urine, *menses*, and the Stone. *Dioscorides* writes, the leaves warmed in vinegar, and drunk for 40 days, consume the Spleen.

Scordium, alexipharmic, used in obstruction of the liver, spleen and lungs, stuffed with viscous and purulent matter: outwardly mundifies wounds and ulcers, eases pains of the gout, 'tis the basis of *Eracastorius's Diascordium*.

Housteek, c. 3. binds, used inwardly in bilious Fevers, to appease thirst; outwardly in Angina: The *Germans* commonly give the Juice with Sugar, in Fevers and hot diseases.

Groundsel,

Groundsel, of a mixt quality, used chiefly in choler, jaundies, worms, vomiting of blood, &c. outwardly in inflam'd breasts, scabs, *struma*, &c.

Nightshade, chiefly used in *Erysipela's*, pains of the head and heart in Fevers.

Spinach, c. m. 1. good meat in all diseases, loosens the belly, lenifies the roughness of the lungs, continually used, it begets melancholy blood.

Tansy, h. d. discusses, vulnerary, uterine, and nephritic, in worms, gripings, &c.

Thyme, h. d. 3. used chiefly in tartarous diseases, first in the lungs, as cough, and asthma; secondly, of the joints, as gout, opens all inward hurts.

Coltsfoot, thoracic, used chiefly in coughs, whence called *Bechion* in Greek; 'tis call'd the son before the father, because in *February* and *March* in flowers suddenly, the leaves not yet come out, and these flowers last not above two days almost with the stalk.

Mullen, moderately h. d. mollifies, and lenifies pains; 'tis chiefly used in coughs, spitting of blood, griping of the belly, and the root taken 9 or 10 days together, stays the pain and flux of the hæmorrhoids.

Vervain, h. d. binds, cephalic, and vulnerary, used in affects of the eyes, old cough, obstructions of the liver and spleen, jaundies, griping,

gripping, bloody fluxes, expels the Stone, curbs Lust, frightens Tertian Fevers, mitigates the Gout, facilitates Child-birth, outwardly for most of the said diseases.

Pauls Betony, h. d. binds, is vulnerary, and sudorific, good in obstruction of the spleen, and colic, scabs, itch, plague, &c.

Perewinkle, c. d. binds, good against ferrous humors.

Golden-rod, binds, vulnerary, diuretic, &c.

Mead-sweet, c. d. binds, alexipharmic, good for all sorts of fluxes.

Nettles, h. d. 2. open, mollifie, diuretic, a peculiar alexipharmic against hemlock and henbane; the roots chiefly commended in the Jaundies; the leaves boil'd in Potage; loosen the belly, &c. the juice put up into the Nose, stays bleeding, &c. the dead or Archangel, with purple flowers, is commended in the bloody flux, with white flowers in the white flux.

Next of Flowers, and first of

Pomegranates, are very binding, and thickening, cooling, &c.

Marygolds, are cardiac, epatic, move cources, heal jaundies, &c.

Clowe-gilliflowers, h. d. cordial, kill Worms, ease in Child-birth.

Of *Brome*, splenetic, nephritic, epatic, h.d. 2. attenuate, expell the Stone, draw forth ferrous humors, by vomit, siége and urine; outwardly good in *struma's*.

Roses, as they vary in kind, so in quality, they strengthen the spirits, the pale loose, the red and white bind, the red stronger; chiefly used in fluxions, fevers, thirst, lost appetite, &c. outwardly in vomiting, head ach, watchings, pains of the ear, *anus*, *rectum intestinum*, boil'd in wine, or otherwise prepar'd; in inflammations and ulcers of the mouth, eyes, jaws, &c. in fine, there are not more various preparations made of any one thing than *Roses* in physick.

Elder, discufs, mollifie, sudorific, anodine, used inwardly chiefly in preventing and curing *Erisipela's*.

Mullen, are in great estimation, in allaying the pains in diseases, and tumors of *anus*, and hæmorrhoids, &c.

Violets, are c. 1. m. 2. dry'd they are weaker, they mollifie, loosen, expectorate, used chiefly in mitigating black choler, allaying heat in fevers, in coughs, roughness of the throat, sharp catarrhs, pleurisie, &c. they are numbred amongst the cordial flowers: for other flowers, as of *Dil*, *Camomil*, *M-lilot*, &c. they participate of the same virtue with the herbs or plants they come of, and so I omit tautologizing.

Saffron,

Saffron, h. d. 2. good for the brain, quickneth the senses, cheareth the heart, causeth digestion, helpeth the diseases of the breast, lungs, and liver; it mollifieth all hardness, and ripeneth all tumors, 'tis call'd *anima pulmonum*: 'tis uterine, 2 or 3 drops of the tincture given in Fits, in *asthma*, with *ol. amygdal.* Dose to ℥i..

Of Fruits, and first of

Almonds, the sweet nourish, temperately hot and moist, lenifie the acrimony of humors and pains, and watching arising from thence, they aye chiefly used in emulsions.

The bitter, h. d. 2. open, deterge, are diuretic, outwardly they take away spots, pimples, and freckles in the face, masticated and apply'd Cataplasm-wise.

Figs, h. 2. very moderate, and humect, are pulmonary and bechic, cleanse the reins and bladder of gravel, resist poison, used in driving out the Small-Pox and Measles; they ripen, mollifie, attract, whence from sacred Scripture they are prescrib'd in pestilential Bubo's; some Women eat them roasted, to facilitate Child-birth; and 'tis familiar with some to put Figs into Brandy, and burn it, and give it to drink in a cough.

Cloves,

Cloves, are good in crudities of the Stomach, Tooth-ach, &c.

Cherries, are sharp, cool, bind, strengthen the Stomach, hence good in feverish thirsts and heat. The great *Fernelius* highly commends the decoction of *Cherries* in hypochondriac affects.

Of *Citron*, *Lemons* and *Oranges*, &c. before.

Cubebs, h. 2. d. 3. discufs, strengthen the viscera, and chiefly the head.

Cucumber, refrigerates and humects, &c.

Sweet bryer, is chiefly commended against the Stone, the kernel taken out.

Dates, ripe and pulp'd, heat and bind, unripe stronger, good in sharpness of the throat, strengthen the fetus in the womb, help diseases of the reins and bladder.

Acrons and *Acron-cups*, cool, dry and bind, &c.

Jujubs, are moderately h. and m. used chiefly in distillation of the lungs, cough, pleurisie, sharpness of urine, fervency of the blood, erosions of the reins and bladder.

Juniper and *Bayberries*, h. 3. d. 2. discufs, move urine, sweat, open all obstructions, good in the colick.

Mulberries and *Blackberries*, are used in all fluxes, and ulcers, and inflammations of the mouth.

Myrtle

Myrtle-berries, temperately c. d. very binding, used sometimes in inward fluxes.

Black thorn berries, purge choler, phlegm, and ferous humors, the dose of them is from xv. to xx. or dried in powder, to 3 ℥. or xl. to lx. boil'd.

Elder berries, are alexipharmic and sudorific.

Sebestens, are temperate, between heat and cold, humect, mollifie, check the acrimony of humors, in sharp catarrhs, urines, bilious fevers, &c.

Next of Seeds, and first of

Anise, d. 3. attenuate, diuretic, augment milk, is pulmonic and stomachic, discufs wind, Di. given to Infants, gently cast out, upwards and downwards, any thing offensive.

Carway and Coriander seeds, are much of the same nature.

Cucumber, Gourd, Melon and Pompion, are called the four greater cold Seeds, and are used in antipleuretic, antinephritic, antiphrenetic, &c. emulsions.

The 4 lesser cold seeds are 1. *chicbory*, and *endive*, a most noble epatic, c. d. absterge, frequently used in bilious fevers; 2. *lettuce* and *porcelan*, are good in a virulent Gonorrhæa, Scurvy, kill Worms, &c.

Beans,

Beans, c. d. r. incrassate, exterge, good in *Diarrhaea*, *Lienteria*, &c. outward in cataplasms.

Fenel, much of the same nature with *Anise*.

Fennugreek, h. 2. d. 1. mollifies, anodine, scarce a cataplasm used in Chirurgery for the said uses, but it or its mucilage enter into't, often also us'd in emollient Clysters, because its mucilaginous substance obtunds acrimony, in plasters over the corroded intestines.

French Barley, c. d. r. is diuretic, digests, softens and ripens all hard swellings; is good for inflammations, excelleth against the soreness of the throat, comforteth, absterges. I commonly use it thus: Put a heaped Spoonful into a pint of running water, wash it well, boil it a walm or two, pour out the water into a Bason, and use it when it is cold, either for Juleps or Emulsions, or any other ways.

Line seed, h. 1. digests, used in coughs, pleurisie, &c. outwardly for tumors and spots.

Lupines of the same nature with *Beans*.

Rape seed, provoks venery, used to expell the small Pox.

Worm seed, may be used prepared, i. e. macerated in vinegar 3 or 4 days dried.

Mustard, h. d. 3. attenuates, draws, used chiefly to stir the appetite, in hypocondriacs, and quartan and quotidian Fevers, from a tartarous

tarous mucilage, before the Fit, dose ʒi. and in the Stone.

Wheat-flower, mollifies and discusses, used in inflammations and fluxions of the eyes in pultis; dry, is apply'd in Erysipela's, and pains of the Gout, the brain in scurfs, &c. the head, and ease pain in pultis; in clysters for griping of the guts.

Starch, is moderately hot, levigateth the parts exasperated: it is effectual against defluxions of humors into the eyes, against pustles and hollow ulcers, it filleth with flesh, stoppeth spitting of blood, helpeth the roughness and soreness of the breast and throat, and easeth the cough: is very good in the fluxes of the belly, to be given in Clyster- against inflammations and excoriations in the intralls.

Farina volatilis, or mill dust, is used in compositions, to stay fluxes of bleeding wounds.

Next of Gums, Resins, Gum-resins, Balsams, and concrete Juices, and first of

Ammoniacum, h. 2. d. 1. digests, draws thorns out of the flesh, moves the belly, is splenetic, used in arthritic pains, in resolving the tartarous, viscous mucilage of the lungs, and mesentery, &c. dose to ʒi. outwardly in schyrrous tumors, &c.

Arabic,

Arabic, h. m. 1. thickens and obstructs the pores, blunts the acrimony of medicines, helps coughs, &c.

Sarcocol, h. 2. d. 1. consolidates, ripens, wonderfully profits in fluxions of the eyes, macerated for five days in Asses or Womans milk, then mixt with rose water, and laid up-
on the eye lids, &c.

Tragacanth, much the same with *Arabic*, making a *linctus* with honey, let it melt under the tongue; good in pain and corrosion of the reins and bladder, dysentery, in broth and in clysters; in *aq. ros.* or milk for fluxions of the eyes.

Tacamahaca, h. 1. d. 2. very binding, digests, &c. of great efficacy in pains of the joints. The *Indians* use it in ail pains, so there be not inflammation.

Cypress and *Chio Terebinth*, good in coughs, and other affects of the lungs, with honey moves the belly and urine; 'tis to be wash'd, and so you may mix it with the yelk of an egg first, and then dissolve in in any proper liquor, or make it into Pills, being boil'd in some convenient liquor, and then poudred. The common is used almost in all Plasters.

Thus, h. 2. d. 1. binding somewhat, inwardly for divers diseases of the head and breast, and fluxes; coughs; outwardly fills ulcers with flesh, heals redness of the eyes,
mixt.

mixt with Womans milk and *aq. ros.* first impregnated with often extinction of *Thus*, and made into a liquid *collyrium*.

Pitch, discusses, digests, &c.

Camphor, resists poison, used in malignant Fevers.

Mastich, h. d. 2. binds a little, mollifies, used in fluxes, coughs, &c.

Myrrhe, h. d. 2. opens, resists putrefaction, used in obstruction of the womb, and viscous mucilage of the lungs and intestines, cough, hoarseness, colic, worms, fluxes, and outwardly in plasters for tumors.

Liquid Styrax, mollifies, dries, good in coughs and catarrhs, hardness and obstructions of the womb, loosens the belly, if taken with terebinth made into pills.

The true Balsam, as I said before, is not to be had, in lieu whereof we use, 1. Balsam of *Tolā*, which is h. d. used in asthma's, &c. 2. of *Peru*, h. d. mollifies, used chiefly in phthisics, nephritics, obstructions, weakness and pain of the stomach; outwardly eases cold pains, the gout, fresh wounds, bruises, fevers, anointing the spine before the Fit, and giving some drops inwardly in Wine, and repeating it, dose *ad gut. vi.*

Liquid Ambar, h. 2. m. 1. resolves, deobstructs, used in perfumes, &c.

Acacia, c. d. 3. bind, used chiefly in fluxes.

Hypo-

Hypocistis, of the same nature.

Juice of liquirice, is temperate in all his qualities, but exceedeth somewhat in heat; lenifies the throat, and mitigates the asperities of the arteries, cleanseth the bladder, and is good for the cough, moveth expectoration, and is very profitable against all vices of the lungs and throat.

Opium, procures sleep and sweat, *laudanum* is always used for it.

Sugar, h. d. 2. nourishes, opens, moves the belly and urine, resists putrefaction, helps coughs, &c.

Tartar of Wine, attenuates tartarous and thick humors causing obstructions of the liver, spleen, mesentery, reins, hypochondria's, &c. whence the Chymists falsely call it an universal digestive, upon which account they often premit it cathartics; and to loosen the belly, they give to ʒii. adding to gr. ii. of *Diagrydium*, or *Gutta Gamba*; the cream or chrystal is most used.

Next of liquid Juices, and first of

The juices of Limons, Berberries, Citrons, Aurange, Pomegranates, Roses, Woodforrel, have the virtues of their Fruits, of which before.

Verjuice, c. 2. used in heat of the stomach and Hypochondria, yea, some say 'tis better than Vinegar in all hot diseases. Oil,

Oil, h. m. mollifies, digests, moves the belly, (taken ʒi . in warm Ale) corrects the driness of the breast, mitigates the griping of the belly, loosens the urinary passages, used in clysters often, and tumors; taken with hot water it moves vomit.

Oleum Omphacinum, is prest from unripe grapes, it cools more than the ripe.

Of things bred from Plants in several places before.

Of living Creatures, their parts, excrements, and other things taken from them, and first of

Aselli, Sows, digest, open, &c. hence they are of peculiar use in resolving tartarous mucilage, and reducing the Stone to a mucilage, as some say, *sed haud credo*, in deobstructing the viscera, jaundies, colic, nephritic pains, and difficulty of urine, *asthma* and loss of appetite, from the mucilage of the Stomach. Laid alive upon a *Phagedana*, some say cure it; dose to ʒi . in powder with wine, or other nephritic liquor.

Snails, cool, consolidate, lenifie, agreeable to the nerves and lungs; hence used in phthisic and cough, heat of the liver, and colic; outwardly they break carbuncles and biles, laid on alone, or with Bulls gall; consolidate wounds

wounds and ulcers, especially of the nerves; mitigate in gouty inflammations, draw out water in dropsies, and hydrocele's, bruised with hyssop, and apply'd, stay hæmorrhages laid to the forehead. The fatness of their broth, heals redness and pains of the eyes, and intercepts defluxions to the eyes, laid to the forehead with the white of an Egg. The stymy matter that comes from them, when prick'd, is emplastic, and intercept fluxions to the eyes, applied as before. Snail-ashes heal the choppings and scurfiness of the skin, and stay the gleeting humors.

Earth worms, are mighty diuretic, diaphoretic, anodine, discuss, mollifie, increase milk, glutinate wounds of the nerves, and other parts; used in apoplexies, convulsions, jaundies, dropsie, gripings in children, caused by worms; the scorbutic, running or wandering gout; they are given inwardly either bruised and strain'd, or dryed and poudered; outwardly alive to Whitloes till they die, dead in Cataplasms; their ashes put into the hollow tooth, easeth pain.

Now of the parts and excrements of living Creatures, &c. and first of

Fats, Grease, Suet and Marrow of living Creatures, are for the most part anodine, mollifying,

lifying, discussing, &c. more or less, according to the nature of the Animal they are taken from, and their age, for the older discuss more, and mollifie less.

Album Gracum, dries, absterges, good in *Dysenteria*, Colic, &c. outwardly blown into the throat, it heals the squinancy, malignant ulcers, sprinkled upon them pultis. wise; it mollifies and breaks tumors; anointing the belly, it draws out dropical waters, the ashes alone, or with *ol. rosar.* takes away wharts.

Crude Haris horn, resists putrefaction, provokes sweat, strengthens the natural balsam; hence 'tis profitably used in malignant fevers, small-pox, &c. where sweating is requisite; 'tis to be used in decoction, or infusion, and never crude.

Elephants tooth, cools and dries moderately, strengthens the *viscera*, stays whites in Women, and other fluxes; good in jaundies, worms, obstructions, pains of the Stomach, in poulder the raspings may also be given for the same uses in infusions.

Ichthyocolla, i. e. *Isinglass*, used in glutinating Emplasters, and Gellies, for Gonorrhœas and Fluxes.

All *Galls* calesie, dry, discuss, kill worms, and are good for dulness of the eye.

All *Blond* calesies, binds, that of Birds, by reason of its nitrous faculty, absterges, as of Doves, Kites, Vulture, &c.

Dungs

Dungs of Birds are wholly of a nitrous quality, whence they powerfully discuss, &c. but those of Cattle anodine.

Urines are hot, and dry, and absterging.

Castor, h. 3. d. 2. attenuates, discusses wind, strengthens the nervous parts, provokes months.

Mosch, h. 2. d. 3. discusses, is cordial; Dose to gr. v.

Ziber, the same.

Things from the Sea.

Ambergrise, of the same virtue with *Mosch*, *Ziber*, &c.

Ambar, heats, strengthens, used in Catarrhs, Epilepsie, &c. all Fluxes. Dose to 3 i.

Sea-moss, c. d. kills Worms inwardly and outwardly. Dose to 3 i.

Corall, dries, cools, binds, purifies the blood, &c.

Sperma ceti, humects, resolves, is anodine in the chollic and gripes in children, and coughs. Dose to 3 ii. some anoint with it in the Small-Pox, to fill with flesh.

Next of Metals, Stones, Salts, and other Minerals, and first of

Alum, 'tis astringent, mendeth putrified ulcers, drieth the moist, consumeth superfluous flesh, taketh away the itch, cureth the scab, is very profitable in lotions for ulcerations of the mouth, throat, or elsewhere: being burnt, is most used to dry up ulcers, and induce a cicatrice.

Antimony, is astringent, and drying, used to absume excrescency, and procure cicatrices to mundifie ulcers of the eyes, in *Collyria's*.

Mercury, inwardly mundifies the blood, in the *Lues Venerea*, kills worms, helps difficult labour; anointed, cures all scabs, lice, resolves hard tumors, &c.

Bole-armonic, is very dry and astringent; a good medicine in resisting fluxes of blood, helping the catarrh, dysentery, and ulcers of the mouth; good in the Pestilence, and all other like infections.

Quick-lime, burns to a crust; the washed, dries without mordacity, is good in contumacious ulcers, &c.

Vitriol, h.d binds vehemently, kill worms.

Chalk, dries, absterges, is emplastic, used sometimes inwardly in heat of the Stomach.

Cryſtal,

Crystal, binding in all fluxes, begets plenty of milk, good for the Gout and Stone; 3 i. powdred with *ol. amygd. dulc.* cures them, have taken *Mercury*.

Lytharge of Gold and Silver, dry, bind, used in most Emplasters.

Minium, binds too, &c. used in Unguents and Emplasters.

Nitre, resists putrefaction, quenches thirst, cuts tartarous humours, resolves clotted blood, mitigates pain; where the body is loose, 'tis not given so well; outwardly, in inflammation of the jaws, &c. in refrigerating topics 'tis dissolv'd in fit liquor, lint dipt in't, and appli'd, and in burns.

Ostiocolla, quickly glutinates bones; it may be given inwardly to 3 iß. and put in Emplasters.

Sulphur, h. d. appropriate to the breast, opens, resists putrefaction, provokes sweat; hence used in phthisic, cough, pest, &c. outwardly, it discusses hard tumors, heals itch, &c.

Tutie, is the excellentest of all medicines, which dry without modacrity; if wash'd, fit for cancrus ulcers, in *Collyria's* for fluxions and inflammations of the eyes.

Of simple and compound Medicines, and their qualities, &c. in general.

THE Artift is by all means to underftand the operation in general of the fimple and compound Medicines he is to ufe both inwardly and outwardly ; of the compounds before : As for the fimples, we are to begin with thofe that are ufed in altering and preparing humors, and firft of *Choler*, which becaufe 'tis hot and dry, is to be cool'd and moistned ; if thick, 'tis to be attenuated ; to the effecting of which purpofes, you have Vegetals, Animals, Minerals, at your fervice, as hath been fhewn before in particular.

Phlegm, by reason of its thick, viscus, flimy, cold quality, requires heating, attenuating, inciding, deterging medicines, unlefs it be falt, then are cooling and moistning to be ufed, as in *Choler*.

Melancholy, which is *fax fanguinis*, being cold, thick, dry, earthy, ftopping the *viscera*, ought to be prepar'd with moistning, heating, attenuating medicines, and fuch as open and deobstruct the paffages ; all which are performed by fuch medicines as are of the fame nature with preparers of *Phlegm*.

Black

Black Choler, because 'tis hot and dry, as Choler is, must be cool'd and moistned, and attenuated, by reason of its thickness; all which may be done as before in *Choler*.

Now when humors are artificially prepared, they are to be purged, and carried off by siege, or vomit, sweat or urine, that they may no longer infest the body, or cause a relapse. Now these following purge *Choler*.

Cassia, fit for all times and ages, except a moist stomach, then 'tis corrected with anise, &c. or accuated with Rhubarb. Dose from $\mathfrak{z}\mathfrak{ss}$. to $\mathfrak{z}\mathfrak{ii}$.

Manna, from $\mathfrak{z}\mathfrak{i}$. to \mathfrak{ii} . is gentle, in Broth,

Tamarindi, from $\mathfrak{z}\mathfrak{ii}$. to \mathfrak{iii} . in convenient decoction with Rhubarb, as in *Cassia*, fit for all persons and times.

For *Aloes*, use *Aloes Rosat.* hurts hot and dry bodies, women with child, those that void blood by siege and vomit.

Rhubarb, vacuates Phlegm too, and binds after, good in bruises, especially dried well; or else boil'd or infus'd in some convenient liquor, as white-wine, and then cast away the first decoction, boil it again, and strain it hard, which binds more, *cor hepatis*, it may be given to all ages, and women with child. Dose $\mathfrak{z}\mathfrak{ii}$. infused to $\mathfrak{z}\mathfrak{ss}$.

Scamony, strongly vacuates thin and serous humors, not gross; must never be given with-

out lubricating, cooling things, as juice of quinces, mucilage of gum traganth, yelk of an Egg, &c. the prepar'd is call'd *Diagridium*.

All *Mirobalans*, are like Rhubarb, but purge less.

Black Choler, is purg'd by 1. *Senna*, which though it be plac'd as the chief of *Melanagogues*, yet 'tis, I must tell you, *aliquid transcendente*, as I may say, and may be reckon'd a *cholagogue*, *phlegmagogue*, *hydragogue*. Dose ad ʒi. and was of so great esteem with my ever honoured Master, Dr. *Patin*, that he us'd to call it *miraculum naturæ*; and indeed it would take up a reasonable Volume to recite its virtues; for,

*If any medicine e'er deserv'd to be
Call'd universal, sure 'tis Senne.*

Black Ellebor, in contumacious Diseases onely, and then to the strong, in decoction or infusion, to ʒii.

Phlegm, is purg'd by 1. *Agaric*, safe for any age, but hurts the Stomach. Dose to ʒii. corrected with *sal. gemmæ*, *ol. amygdal. dulc.* &c.

Nolo damnosum Turbich mea viscera turbet.

'Tis

'Tis very strong, and purges from remote parts, in powder to $3i$. in decoction *ii*. corrected as *Agaric*.

Hermoadactils are of the same nature, dose and correction.

Mechoacan, safe to all ages, purges water. Dose to $3i$. in Broth, Ale, White-wine, or *ol. amygdal.*

The same of *Jalap*. Dose to $3i$. in broth, &c.

Hydragogues, are such, as purge serous humors; the stronger sort of *Phlegmagogues*, or in greater Dose, become *Hydragogues*.

N. B. These strong Purgers are to be given in Broth, or Posset-drink, Whey, or *ol. amygdal. dulcium*; to correct their sharp, fiery, inflaming quality, that they hurt not the noble parts, &c.

Things causing vomit, act by an oleaginous quality, quantity, or acrimony; they are either gentle, as warm water, water and vinegar, and honey, butter melted, simple oil; or middle nature, as the middle bark of the walnut tree, gathered when 'tis juicy and dried. Dose to $3i$. Asarabaca root to $3iv$. Lawrel leaves, Radish seed, to $3iii$. Agaric and Nettle seed to $3i$. with water and honey, or fat broth. The vehement and white Vitriol, in some convenient liquor, to $gr.xv$. *Vitrum Antimonii*, and *Crocus Metal.* to $gr.vi$.

Of *Diuretics*, some are hot and dry, 3.d. and of thin parts, some cold ; they are proper for hot reins and liver, the same with preparers of phlegm : where note, that *Diuretics* are onely attenuating, if they be too gentle, the humor very thick, if they be given in a small Dose ; and on the other side, Attenuaters become *Diuretics*, if they be strong, copious, the humor thin. The cold and temperate, are made of preparers of Choler.

Sudorifics, perform their office, either because they are hot and dry to the 3d. degr. or by an occult quality ; as *China*, *Sarsa*, *Guaiacum*, *Sassafras*, &c.

After general evacuations, particular follow: Attenuating things purge the head by the nostrils, as *Errhins*, by the mouth, as *Masticatories* and *Gargarisms*, they must be sharp, such as in preparers of phlegm ; but Mercury is the most potent of all, which purges all humors from all parts of the body by the mouth.

Bechies vacuate Humours contain'd in the *thorax* by the mouth, with cough and spitting, which must be of such things that purge not properly, but prepare the humors, that they may the easier be expectorated by cough.

These are the chief *materia medica* of internal and external Remedies.

From

From preparers of bile, and things of such like nature, you may be furnished with Refrigeraters.

Indurating medicines are such as render the body unfit to yield to touch, they are cold, and of thick substance, they incrassate thin humors, bind fluxes of the belly, months, and blood in wounds; outwardly they repel, condense the skin, so that nothing can evaporate; all which is done by cool things, &c.

Much of the same nature are *Epulotics*, for they must dry the upper flesh.

Many also of the aforesaid are glutinating, to which add *Thus, Gum. Elemi, Aloe. Hares hair burnt, &c.*

Of the aforesaid *Astringents*, are likewise *Emplastics* made.

From preparers of *Phlegm*, are used things to discuss wind, and provoking *menstrua's* and resolvers, attenuaters, &c. to which resemble attracters, which are to be hot & dry 2d. and of thin parts; but when they ascend the 3d. they resolve too, and are called *Metasyncritica*. But those which by their too much heat and thin parts, raise Bladders, as *Roots of Sow-bread, Hermodactils, Garlicks, Onions, Leeks, Crowfoot, Sinapis, Fermentum, Stavisagria, Cantharides*, are called *Vesicatores*.

Cautics and Escharotics, are strongest of all,

as *Black Sope*, with common Salt, *Calx viva*, *Tartar*, calcind'd, *Vitriol. ust.* *Lap. infernal.* red hot Iron, &c.

From all these before recited, may be had Remedies for the eradicating divers Diseases; as to calefie the Head, Stomach, Liver, and Bowels, if occasion be, take things preparing Phlegm, and things outwardly that attenuate and resolve; but if you would refrigerate those parts, then take those things that alter Bile, and outward coolers.

Things against the Diseases of the Eyes are call'd *opthalmics*; of which some are anodine, and repel; some dry, or moisten; some digest, or resolve; some deterge without pain.

Thoracics are divers some purge, or rather prepare excrementitious humors, contain'd in the *thorax*, and they are such as alter *Phlegm*.

Others incrassate thin humors, they are cold or temperate, to lenifie coughs, and acrimony of humors.

Of *Cardiacs*, largely before.

Augmenters of milk, are things that beget good juice, and nourish much; but medicines, such as moderately attenuate, as moving Blood to the Dugs, and herbs must be green; crystal powdred to ʒi.

Those things lessen milk, that either refrigerate and thicken, or dry, &c.

Stomachics, both cold and hot, are of the same nature as medicines preparing *Phlegm* and *Bile*.

Cold and hot *Hepatics* are taken from thence too.

Splenetics, are such as attenuate, mollifie and open thick and feculent humors, as in preparers of *Melancholy* and *Bile*.

Nephritics, are such as help suppression and heat of Urine, Gravel, Stone, obstruction from viscid humors: against all, but breaking the Stone, you have the same Remedies, as for Preparers of *Phlegm*, *Bile*, and *Diuretics*; the which will also cause the Stone to be voided; but if you would have medicines to break the Stone, truly I am of the opinion with the learned *Primrose*, in his *Vulgar Errors*, that there is no such medicine *in rerum natura*, for reasons too long here to recite.

Hysterics, are hot, as either move courses, which is done by such as prepare *Phlegm*, or such as prohibit their too much flowing, such are laid down in *Astringents*; or such as corroborate the womb, which are such as heat and strengthen the brain.

Arthritics, are of the same nature with *Cephalics*, whether hot or cold.

Things killing worms, must be either bitter or sharp, which by a penetrating quality dissolve.

Solve their substance; or astringent, to bind them together; or lastly oleous, to shut up their pores, and to hinder transpiration, by which they only live, and so suffocate them.

Semnifics, are such as afford fit matter, as meats and drinks of good juice, and much nourishment; or stir up lust, or are windy, such as Roots of *Eringo*, *Artichokes*, *Sparagus*, *Satyron*, all *Bulbs*, *Cububs*, &c. But those that extinguish it, do refrigerate, and over-dry.

Vulneraries, are things whereof Potions are made for the cure of wounds and ulcers.

Anodines, ease pain, and must be of temperate nature, or hot and moist in the 1. deg. and analogous to the native Heat. But sometimes in raging pain, we are forc'd to use *Narcotics*, as roots and leaves of *Hemlock*, *Henbane*, *Mandrake*, *Poppy*, &c.

Emollition, is to be used in hardness and driness; tis done by things hot and moist in 1. and 2. deg. such as *Anodines*.

Suppuraters, are also hot and moist, empla-
stic, and obstrusting the pores, such as *Ano-
dines* and *Emollients*, always to be used in the
state of a Tumor.

The Tumor being fully come to Suppu-
ration, and *pus* procur'd, it must be open'd
with an incision knife, actual or potential
cautery, then the *pus* must be deterg'd,
which for the most part is done by things of
a bitter

a bitter or nitrous quality ; the stronger of these are for fistula's and malignant Ulcers.

The Ulcer being deterg'd, 'tis to be fill'd up with flesh, by means of gentle dryers, and detergers, without acrimony, or great heat, lest they absume the blood, the matter of flesh, and heat the efficient cause.

Sarcotics only remove impediments ; they are divers, according to the nature of the Patient, for the dryer are for dry bodies, moist for moist, as women and children ; if they be too weak, the Ulcer will become sordid ; if too strong, they will exasperate.

If flesh be luxurient, 'tis to be absum'd by Catheretics, not corrupting the near parts : they must be of thin substance, hot in 3. or 4. deg. such are *burnt Alum, Precipitate, Ol. Vitriol. Sulphur, &c.*

The Ulcer being arcificially fill'd with flesh, and equal, 'tis then to be cicatriz'd ; by things that dry, to absume superfluous humidity, for the skin is dry ; they must bind, to contract the flesh without evident heat or sharpness, except to strong bodies.

Now the Artist must not rest here, but he must farther what belongs to the forms and compositions of medicines, both inward and outward ; and first of

Suppositories, or Glandes, from likeness, good to irritate the expulsive faculty, where Clysters

sters cannot be admitted, and to bring forth Clysters too long retain'd : they need not be too long, their often use procures the hemorrhoids, and ulcers, a candles end, or violet confect is enough for children ; others are made of the juice of *Beets, Mercury, Rhadish, Althea, &c.* with honey boil'd hard, or castile sope alone, or honey boil'd, adding heir. pic. sal. an. ʒss. as the nature of the Patient requires. In Ulcers, make them of *Empl. divinum, de cerus. &c.* to ease pain of sewer, vitel. over. cum butyro, &c.

Clyster, lavamen, enema, is of liquid substance, administred at the anus for divers, and those very profitable uses, they are made of milk, water and honey, oil, broth, wine, or any decoction the Artist sees proper for his purpose ; if to loosen and deterge, take the common decoction, and add double or triple the dose of purging Electuaries ; if to mollifie, take *cassia, mel. viol. &c.* if to ease pain, vitel. ovor. ol. ros. viol. lac. crem. hordei. amydal. dulc. 4. sem. frig. maj. all these good in Fevers, with decoction of *viol. lactu. borag. prun. hord. &c.* In Ulcers, after deterging, you must consolidate with astringents, but the juices of herbs are more effectual than the decoction. If wind cause pain, use herbs that prepare phlegm. The quantity must be less for children ; or when you would have them

then retein'd longer, in colic, nephritic, in great plenitude of excremens, inflammation of the belly, *enterocele*, women with child, those that are short breath'd. In others, use ℥ i. of liquor more or less, as bigness of the body and age is, oils, ℥ ii. honey or sugar, ℥ ii,iii, or iv. *vitel. ovor.* ii,iii. salt, 3i. Now Clysters revel, derive, evacuate, so that there is no part of the body that finds not profit by them, chiefly the womb, reins, spleen, &c. and by consequence the brain; keep them longer to ease pain, longest to glutinate, shorter in deterging. Nutrient Clysters are made of Wine, Broths, Milk, Barley, Almonds, Eggs, and a little Sugar, to which you may add cooling herbs, but clear the excrements: for the worms, give better things at the mouth; and milk, and sweet things in Clysters.

Injections are used to divers parts of the body, and are made of the same things, as Clysters only.

Pessaries are for the womb, like *Suppositories*, they are made of Opiats, Juices, Liquors, Powders, Ointments, Honey, Oils; either as *Glandes*, with Honey only boil'd and Powders; or of things before, imbib'd with Flax or Cotton, wrapt up in Silk, or fine Linnen, about the bigness of a great finger; they are either to mollifie, ease pain, open, or bind.

Nascale is a round *Pessus*, made of the same things

things for Virgins, and Ulcers that will not admit of *Pessaries*.

Apozems, are made of divers *Simples* boil'd, to prepare or purge humors, as of Woods, Roots, Barks, Leaves, Fruits, Seeds, Flowers, Spices; mostly *Liquirice* is added to all, because it lenifies, humects, opens, &c. *Borage*, *Buglos*. *Adianth*. because they are temperate, as *Passula*, *Hord.* & *pruna acida* in hot diseases, *dulcia* in cold; sometimes *Hydromel* for phlegmatic diseases.

Commonly they are made of ℥ vi. of Roots, Woods, and Barks, ℥ ii. Leaves to M. x. Seeds to ℥ i℥ . lesser sort of fruits to ℥ i. the greater are added by number, as *No. xii.* to *xx.* flowers, *pug. vi.* spices are added in the end, not to be boil'd much: first the Woods, Roots, Barks, are to be boil'd, then Leaves and Stalks require most boiling, next Seeds and Fruits bear lesser boiling, Flowers and Spices the least. The Artist is to prescribe what liquor they are to be boil'd in, according as he sees fit, as common water, or distill'd, or barley water, or hydromel, in pituitous cases, in melancholy whey, in obstructions chalybeat water, and wine, and sometime vinegar.

The quantity of ingredients and liquor is left to the judgment of the Artist, as the quantity more or less he intends of the *Apozem*; but if bitter, the less must be: there is no need

need of so many kinds of Simples, the best may be made of two or three harder things, as Woods, Roots, require more liquor and boiling, which is often left to the discretion of the Artist, the Artist says in the Prescription.

F. decoctio, in aq. font. q. s. when 'tis boil'd, 'tis to be strain'd, hard, or gently; and sometimes clarified with alb. ovi. which strain'd liquor and clarifi'd, must be determined in quantity, viz. ℥. i. pro 3. dosib. &c. after dissolve honey, sugar, or syrup to every dose ℥i. thus prescribing, in qua colatura clarific. dissolve syr. violac. & capil. ven. an. ℥ii. &c. sometimes juices with sugar are prescrib'd thus, in colatura dissolve succorum depuratorum boraigh. acetos. an. ℥ i. sacchar. alb. ℥ii. or q. s. lastly, 'tis aromatiz'd with some simple powder, as cinamon to heat; sanders, or elect. triasantal. to cool, thus: F. Aposem. clarific. & aromatizat. ℥ ii. cinam. pro iv. dosib. matutin.

For purging *Apozems*, they are made of the same altering medicines, in which you are to boil either *Polipody*, *Epithym*, *Jalap*, *Turbit*, *Hermodaetil*, &c. as your case requires; or to infuse *Senna*, *Rhubarb*, *Agaric*, &c. ti'd in a fine cloth, because their strength wastes in boiling; then straining it, add some syrup or juice, or infusion of *Rose* and *Peach Flowers* in the Spring.

Of Syrups before.

Juleps,

Julaps, quasi *iolabion*, *violarum infusio*, they say invented by the *Arabians*, and signifies as much as pleasant Potion with them, known to the *Grecians*, for assuaging thirst, &c. not so much boil'd as a Syrup, and hath less Sugar; and is also made of a triple or quadruple proportion of decoction, or distill'd water to any kind of Syrup the disease shall require; sometimes *Spirit of Vitriol* is added, *ad gratam aciditatem*.

Examples of *Julaps*, are first *Julapium Alexandrinum*, alias *Syr. Regius*.

4. Red-rose water ℥iv. white sugar, ℥i. Coque s. a. utendi tempore.

Julepum Rosatum, is prepar'd as *Syr. Regius*, of pale Rose-water.

Julepum Violarum, is made of the water of Violet Flowers, and Sugar, as in that of *Roses*.

Potions and *Infusions* are almost the same, both either purging or altering.

The purging is made of loosners, dissolved in some purging or altering decoction or infusion, or broth, or distill'd water: the dose to ℥iv. sometime are dissolv'd, *Manna*, *Cassia*, *Tamarinds*, &c. or some solutive Syrup, or Electuary, or Powder, as *Rheum*, *Mechoac*. *Jalap*, pul. *Sanct*. &c.

The altering is made only of altering medicines, to ℥iii. of Liquor, ℥i. of Syrup, Powder, or Electuary, ℥ii. To

To these may be refer'd *Dyet*, of which in venereal distempers.

Cock-broth, is a kind of *Apozem*, made by filling a Cock's belly with fruits, seeds, flowers, leaves, roots, as sometimes *China* and *Salsa*, proper for the disease, letting them boil till the flesh be almost ready to part from the bones, then strain it, and add Sugar, or convenient Syrups: dose to \mathfrak{z} viii. infuse for the *Phthisic China*, *Salsa*, or *Sassafras*, to \mathfrak{z} ii. in *aq. \mathfrak{H} xii.* or *q. s.* then put in the belly of a Pullet, with fruits, as before, and Barley, &c. use it for many days without sweating: adding purging things 'twill purge, as *Polipod. Sem cartham, an \mathfrak{z} ss. Sena Epithym. an. \mathfrak{z} ss. Sem. anis. fanic. an. \mathfrak{z} i.*

An *Emulsion* is of a liquid form, made of *Amyg. dul. nuclei pini, ad \mathfrak{z} ii. sem frigid maj. &c. ad \mathfrak{z} i.* bruise'd in a Stone-mortar, pouring on \mathfrak{H} i. of Barley-water, with Liqui- rice, by degrees, and strain it, which is Al- mond milk; if you add Syrup of Violets, &c. 'tis call'd *Emulso*.

Here comes in the use of *Milk*, often used in *Phthisics*, *Dysenteries*, &c.

4. *Lact. Asin, \mathfrak{z} iv. Sacchari \mathfrak{z} ss. or Sacch. Rosat. or Violat* for the first dose, the next in- crease \mathfrak{z} i. to xii. or xvi. then return by degrees to the former quantity, 2 hours before dinner; pur- ging first; in *Dysenteries*, Cows milk may do.

Whey

Whey is medicinal, cools in Fevers, vacuates melancholy humors, tempers the liver and reins, best in Summer; when you may boil a little, or infuse all night in ℥i. of whey, fumar. chicor. an. m℥ss. in colatura dissolve Sacchar. ʒi℥ss. augment the dose next day, till you come to ℥ii. then returning to ℥i. do this for a month, abstaining from meat two or three hours, you may add juice of apples, limons, oranges, sorrel, &c. or syrups; if you will have it purging add manna, &c. purging syrup, elect. or powders, &c.

A Gelly is a concrete substance of Broth, the fat being taken away; made of calves, or sheeps feet, the flesh boil'd from the bones, then strain'd; when 'tis cold, take off the fat, the remainder clarifie with the whites of Eggs, then to ℥i. of the Gelly, add ʒii. of Sugar, and ʒii. of Spices, as Mace, Cloves, Nutmegs; some add, to gratifie the palate, Syrup of Limons, Vinegar, Rose-water, and Ambar-grise, &c.

A Bolus is of the consistence of Honey, as much as the mouth can receive at once; 'tis purging or strengthening.

Purging is made of Cass. extract. ʒi. Dia. prun. ʒ℥ss, Elect. è suc. ros. ʒii. cum Sacchar. F. Bolus, and such like, with Crem Tartar, or Turpentine, with Elect. or Powders, &c.

Strengthening is made of Conserves ʒ℥ss. of Powder, and strengthening Opiales ʒi.

Of Eleſtuaries, Lohochs, Pills, Troches, Powders, before.

Gargarifms, are medicines held and agitated in the mouth for divers uſes, as to purge the head, to appeaſe pains of the throat and palate, and for their ulcers, &c. diſcuſs and repel; made of waters and decoctions, according to the intent of the Artiſt, of ℥ i. of liquor, ʒ ii. of ſyrup, to ʒ iii. of Powders.

Apophlegmatiſms, or Maſticatories, are ſolid remedies held in the mouth, for the diſeaſes of the head, teeth, and wind-pipe, and to draw phlegm from the head; the ſimples are put into a fine cloth, or reduc'd to Troches. They hurt Ulcers of the mouth, throat, inflammations of the lungs, and catarrhs; after uſing, waſh the mouth with warm water, or ptifan, &c.

Errhina, with the *Greeks*, are things put into the noſtrils, to purge the head; or for *Ozena's*, *Polypus*, *Hæmorrhage*, and their other diſeaſes. They are either ſolid, made up with wax, honey, or terebinth; or humid of juices, as before; or their decoctions, adding Syrup, as *Oxym. ſcyl. mel anthoſ.* or *Pul. euphor. cartham. digryd.* &c. ʒ ſs. may be drawn up, the mouth being full of water, leſt they fall upon the Throat, the Head muſt be upright. When there is fear of blindneſs, or cata-

cataract, use them not ; but they profit in contumacious diseases of the brain, where the smelling is prejudic'd, and deafness, but after general remedies, &c.

Sternutatories, are stronger, and are call'd *Parmica* by the *Greeks*, they help vapors, and mucous matter in the head, are made of Powders.

Epithems, the Ancients call'd in general whatsoever was outwardly applied to the Body, now adays they are appli'd to strengthen noble parts, as in malignant & burning Fevers; if liquid, they are made of distill'd waters, fit juices, wine-vinegar, confections, strengthening Powders, to 3 ii. of Liquor, of Powders, and Confections, 3 ii. they are to be appli'd warm, with scarlet cloth, wrung out ; they ought not to be put cold to the heart, in putrid Fevers, till after general Remedies, lest the transpiration of fuliginous vapors be hindred, unless the heat and malignity of the Fever chiefly urge ; for then the Artist must wholly turn himself to extinguish the heat. The same may be said in coming forth of the Small-Pox and Measles, for fear of striking them in ; yet hot ones may then be used. Some apply them to the Stones, to cool the whole Body, stay Hemorrhage, but hot to excite Venery. The solid are made of Conserves and Powders,

in a manner of an Opiate, with fit liquor, or a Pidgeon cut in the middle, or a Lambs, or Calves, or other young Animals lungs, sprinkling some Zii . of cordial Powder. In *England* we apply them to the feet, to revel from the head, and noble parts.

Lotions are to heat, refrigerate, provoke sleep, used to the feet, or the head ; for the latter, they are made of proper simples, adding Spices, and sometimes *Senna*, *Agaric*, &c. and sometimes Sulphur, after universal evacuations ; then dry the head, and apply medicinal Caps or Plasters, with ointments as the distemper shall require ; they are used in tinea's, fursures, scurfs, scabs, and lice ; they are hurtful in the beginning of catarrhs and pains.

Baths, and Semicups, are made of a large quantity of Roots, Herbs, and Flowers, more or less, according to the quality of water and things to be boil'd.

Lixivia, are made of Ziii . of wine, or water, and Zi . of ashes ; and they are used inwardly too in Dropsies, and Stone, &c. of Broom, Bean, Ash, Vine-stalk Ashes, and White-wine, adding Nutmeg, Cinnamon, Mace, Cumin, Anise, Fenel-seeds, dulcified with Sugar.

Fomenta, or Fatus, are made of Oil ; when you would mollifie ; of Milk, &c. when to leni-

lenifie; of *Lixivium's* of Wine, Brandy, *Oxycrate*, and divers decoctions, when we would digest or dry, &c. they are to be appli'd often with soft flanel, or Scarlet Stuffs, or Spunges, &c. not long to be used, three or four days is enough; if longer, they induce a weakness of the flesh and nerves, always anointing the part with some proper Oil or Unguent.

Embroche, is taken several ways, either for an instillation made of some liquor on a part; or for a gentle application of liquor, or friction with the hand, or the application of linnen cloths wet in that liquor; 'tis made of the decoction of divers things in proper liquor, for hot or cold diseases.

Of kin to these, is *Oxyrhodinon*, made of four or five parts of *Ol. Rosat.* & *Acet. Rosat.* part. 1. or sometimes juices, are added keeping the same doses, which is cooling, so not to be us'd when there is a catarrh, and cough, heaviness of the head, noting fulness of humors, or tension, which shews plenty of vapors, unless they be dry and bilious; moist are known by sleeping, and moisture of the nostrils, dry *è contra*.

Of Oyls, Balsams, Liniments, Unguents, Cerats, Emplasters, and Sparadaaps, before.

Cataplasma, is a medicine of consistence of *Puls*; the crude is made of contused herbs,

herbs with their julces and oils, adding Meal and proper Powders: the boild is made of things till they tabescate, then pulp'd through a Sieve, adding mucilages, meals, fats, oils, and boiling them again to the thickness of *Pulse*. For the most part 'tis prescrib'd to be made of the residue of the decoction for a *fotus* bruised in a mortar, pulp'd by a Sieve, to *℥i.* of which add oils, or analogous to them, mucilages, to \mathfrak{z} *iii, iv, v, vi.* yet 'tis often left to the judgment of the Artift, of Powders, Meals to \mathfrak{z} *iii.* 'tis made sometimes of ripe Fruits, or unripe bak'd under the embers, adding proper Powders, as in Fluxes of the Belly, of Quinces, of the Stomach, of Crusts of Bread with astringents, or with Crums of Bread, Milk, yelks of Eggs, Saffron and Oil, in pains: or of astringent Powders, with whites of Eggs; of Crums of Bread moistned in water, and Oil of Roses, is made an excellent Cataplasm for Inflammations, or with Vinegar, and then 'tis more proper for *Erysipela's*; and if you use Butter for Oil, 'tis more concocting; with Pitch 'tis good against bruised Nerves and Gout; with *Hydromel*, for the Inflammations of the *Præcordia*; 'tis also made of Brans boil'd in *Oxymel* for hard Tumors of the Liver and Spleen, and inflamed *testes*, venenate bitings, with *mulse*, without vinegar to *furuncula* and *tubercula's*. Of fer-

ment with Oil good for hard tumours, to draw out things fixt in the Body; with vinegar, for the humors of the Spleen. Of Figs bruised with *Ol. irin.* for indurated Nerves, contracted joints, hard tumors of the Liver and Spleen; add *Nitre*, and it breaks Apostems, draws out Stings, &c. 'tis good for Dropsies, much more if *Cumin* be added.

Phenigmi, are hot medicins, which drawing the tumors to the part, make it look red, whence it hath its name; the stronger exulcerate, they are hurtful to Women, and effeminate Natures, Children, superficial diseases, to an immaterial cold distemper, for which only calefying things are fit, according to *Aetius*. Hence are various sorts of *Phenigmi's*, differing only in efficacy, &c.

Pfilothron, which takes hair away, also any absterging, discussing, resolving Medicine: To take away hairs, add a little *Auripigment* to *Calx*; but to rubifie, *Pepper*, *Sal*, &c. 'Tis good against the *Elephantiasis*, *Podagra*, *fluxus muliebr*; if it lie long on, 'twill ulcerate.

Smegmata belonging to the cosmetic part of Medicine; but some are hot and dry, and remove outward distempers, made of salt water ashe, spumice, &c. are administred in the form of Sope, or Powders; but Friction is to precede: they are used in cutaneous Distempers, as *Lichenes*, *Psora*, *Elephantiasis*, &c. For the head

head Lotions are to precede, as in *tinea*, of the decoction of *Lupines*, *Barley*, *Bran*, &c. then rub it with Powder of *Nitre*, *Pumice*, &c. ty'd in Bags; Sope is stronger, and is made of *Albes*, *Sewet*, *Lie*, with *Calx*, &c.

Dropax, is also a depilatory Medicine, 'tis stronger than *Psilotbron*, and that depiles by extraction, this by corruption; 'tis made in form of an Emplaster; the simple is call'd *Piptosis*, or *Picatio*, because made of Pitch and Oil, and applied to the part, the hair being shav'd off; 'tis us'd in extenuation of the parts, for it humects and calesies, and draws blood to the part; but in extenuation caused by an ill concoction of the Stomach or Liver, this helps not; 'tis good also for oft vomitings, crudities, and cæliacal affections; pull it off before it be cold, and repeat it often, till the part look red; instead of *Pix*, use *Galbanum* and *Sagapen*. in hard Bodies. The compound is made of *Piper*, *Pyrethrum*, *Sulphur*, *Sal*, *Emphorbium*, *Stercus Columbin*. with *Pix*, in form of an Emplaster; it ought not to exceed the third degree of heat, for its design is only to rubifie; Frictions, Fomenting, &c. must precede, but use it not too long, lest what's attracted be resolv'd.

Sinapismus is a Cataplasim of Mustard-seed and Figs marcerated in warm water, and bruised; the gentler is made of one part of

Sinapis, and two of Figs; the mean of equal parts, the stronger of two parts of *Sinap.* and one of Figs; for Figs some use hot Bread; Vinegar takes away the strength of *Sinapis*; 'tis us'd as *Dropax*: 'Tis good in *Chephalalgia's*, *Epilepsie*, pains in the Joints, Breast, Palsie, Distillations, Sciatica, shortness of Breath, and bad Appetite, from *Ætius*. Apply it not to Cartilages and parts without flesh, as Ears and Nostrils, &c. The Compound is made thus:

Rx *Empl. mucilag.* or *such like*, ℥ ii. *sem.* *Sinap. staphisag. sterc. columb.an.* ℥℥. *pulver aromatic.* ℥ ii. in *oleo irino.* F. *Empl.* or with *Terebinth.* for the *Synapism* in form of T. Goats dung for the *Hip-gout*.

Vesicatorium, is made either in form of an *Emplast.* as *Emplast Vesicator.* or *Emplast. de mucilag.* ℥ i. *Cantharidum* ℥ ii. or like a *Pultis* of ferment. ℥ i. *Cantharid.* ℥ ii. malax'd in Brandy or Vinegar; when it hath rais'd a Blister, apply a *Colewort* leaf a little dried; 'tis us'd for the same purpose as *Synapism*.

It may also be proper in hot Diseases; as

1. In the declining of a Disease, to discuss the relicks: so *Galen* in a *Phrensic.*
2. When the humor is fixt so, that it cannot otherwise be discuss'd, as in a salt Rheum.
3. If it be of a venene quality, as in Bitings and

and Stings, Carbuncles, and malignant Ulcers.

Canteria, induce a crust by burning, they are actual or potential; the first is a hot Iron, by which means are Hæmorrhages staid, defluxions are intercepted, carious Bones, malign Ulcers are cured; the second are Medicines for timorous persons, but Iron is safer; they are proper for Bubo's, Carbuncles, contumacious phlegmatic Diseases, they dry and strengthen moist parts, hinder the Corruption of a gangren'd part, divert humors in divers Diseases; hence they are applied to the Thighs, Arms, Shoulders, and Head. The potential Caustery is made of strong *Lixivium* boil'd to the hardness of a Stone, then cut square, like ordinary Dice, and put into a narrow mouth'd Glass stop'd from Air; some add *Calx* to the *Lixivium*, or use this:

Rx. *Lixivium*, ut *supra* q. s. to which add *Calx*, and *Tartar* calcin'd to a redness, of each three parts, *Vitriol* calcin'd to a redness two parts, *Salis Armoniaci* one part; boil them to the consumption of the moisture, and keep it as before.

Collyria, see before.

Dentifricia, call'd *Odontotrimmata*, are used to polish, deterge, and fasten the teeth, in Diseases of the Gums; they are made of *Coral*, *C.C. Eg-shells*, or *sepia*, *alumen*, *pumice*, *oris*,

Cinamon, *Nitre*, *Sal*, *Dens equi*, &c. burnt or dried to powder, of which you may (adding proper Liquors) make Lotions, or with Honey Liniments, or Powders alone to rub them with.

Sacculi, *Scuta*, *Cucupha*, are made of divers Powders put in a Bag to discuss, strengthen, resolve, ease pains, winds, stays distillations, &c. For the Head, they are cold *Cucupha*; for the Stomach, *Scuta*; for the Heart, Liver, &c. they must imitate their form.

Frontale, is made either of dry Cephalics and Aromatics to discuss; or of *Lettice*, *Hyoscyam*. four cold Seeds, &c. to procure sleep; or in form of a Liniment, or Pultis, as
ang. popul. ʒ i. ol. rosar. aut violat. ʒ β. album
ovi q. s. parum aceti rosat.

Suffitus, is a remedy from which smoak is drawn by the heat of fire, for divers purposes, as to strengthen the head and other parts, stay defluxions in pestilent contagious obstructions, *Asthma*, Suppurations, Pains of the sides, divers affections of the Womb, to provoke Sweat and spitting; 'tis dry or moist: this is made of hot proper Liquor, expiring Vapors, as Vinegar, Wine, Brandy, &c. the dry is made of pinguous things sending forth a smell, as *Ladanum*, *Myrrhe*, *Mastix*, *Storax*, *Terebinth*, *Castor*, *Thus*, *Benjoin*, *Lig. Aloes*, *Cinam*, *Lavendul*, *Cloves*, *Spica*, *Amber*, *Mosch*, &c.

&c. which are cast upon Coals in Powder, or form'd into Troches with pinguous things, as *Terebinth*, *&c.* use it not in spitting Blood, nor in dry diseases of the breast, they are oft prescribed in diseases of the Womb, 5. *Aphorif.* 28. *suffitus aromatum muliebria ducit*; when th' are obstructed by much and thick matter; but they hurt when with child, and dry up the tender *acetabula*, whence they become barren.

Next the Artist is to know the use of the Instruments he is to keep always in readiness in his Closet or Chest; and first of the Crows-bills, Catch-bullets, and Terebellum.

THese Instruments are used severally, to draw out Bullets, Arrow-heads, broken Bones, pieces of Armor, or Mail, or whatsoever else of unnatural things gotten into any part of man's body.

The Incision, or Probe-scissors, do dilate and enlarge the orifice of a Wound or Ulcer; for divers respects better than the Incision-knife.

The Dismembring knife, is used in the fleshy parts to cut close to the Bone, the better to make way for the Saw.

The Trasine, was first devised by Mr. John Woodal,

Woodal, a very learned man, and is of more use than the *Trapan*, as I have divers times experienced; and I use it according to his direction, which I shall rehearse in his own words mostly.

First, That the Pin thereunto belonging, be triangular, and placed in the centre, and stand fast; also that it stand no lower, but always somewhat higher than the circumferent teeth of the head of that Instrument do; because the said Pin guideth the circumferent Tooth-beaded Saw to the beginning of the work, and in the agitating and moving the *Trafine* with the hand to and fro, the said Pin first takes hold, ere the teeth of the Instrument touch the *Scull*; for the Pin is not only appointed as a guide, but also as the stay to the work; which done, namely when the Tooth, Head, Orb, or Saw, hath taken round hold, then the Artist is to take up the Instrument, wipe and cleanse the Teeth, and draw out the said Pin; then he is to pierce on, often taking it out, and dipping it in cold water, and cleansing it with a Brush (whereby he will shun wounding the *dura mater*) till he have gone through the *Cranium*; then taking out his Instrument, he shall find the piece of the *Cranium* fixed within it.

Further, he adviseth the young Artist to make trial on a Calves head, or the like, before he put it in practice upon a man.

The

The Head-Saw, is to give a vent through the *Cranium*, and with it may be taken off a Finger or Toe, as occasion shall serve; and this rather than *cutting Minets* or *Chissels*, they being so apt to shatter the bones; but with this, if the member be stedfastly held, or bound to some piece of Wood, it is taken off very cleanly.

The Dismembring-Saw is used to saw off a Bone of the Arm, Leg, or Thigh, after the flesh is cut from it by the *Knife*, and the *Parietæon* scraped away with the back thereof.

The Speculum Oris, is of two sorts, *i. e.* plain, which taketh hold under the Chin, and holdeth the Mouth open, and the Tongue down, both at one time, and is very necessary in applying Medicines to the Root of the Tongue, *Uvula*, or roof of the Mouth: or with a Screw, thereby by degrees to force, and wrest open the Jaws in the Lethargy, Convulsions, &c. and many other dangerous Diseases, and for conveying nourishment into the Mouth of the Patient.

Speculum Ani, the name declareth to what use it serveth, to open, as occasion shall be offered, as in excoriation, ulceration, fistula, &c. Here have a care not to force needless dilation, lest you bruise the Sphincter-muscle, which divers times will mightily resist the In-

strument, yea, and the Patients own will, then you are to desist.

Of Cauterizing Irons, before in Cantheries.

Forceps for Teeth, of several forms and sizes, and a punch to force out a stump of a hollow Tooth, which cannot be laid hold on by other instruments.

The small Syringe, though many pretend to have the true knowledge of its use, yet they fail grossly. You must have one for watry injections, another for oil; and in using it for the *Gonorrhœa*, let it first be delivered between *glans* and *præputium*, holding the last close together, to wash the passage; the next bout, take the yard in thy left hand about the middle, and then put in the Syringe so far as thou canst leisurely, then deliver the Injection, holding thy left hand so as it may not come out again, but be convey'd to the neck of the Bladder, getting another to fill the Syringe again, and deliver that as the other, not removing thy hand, and then the water will go into the bladder, and this way thou may'st inject as much water as thou wilt into the bladder. Let not the Medicines to be injected be too hot, nor too cold. The Syringe is not here limited, but is used in other parts, as in Wounds, Ulcers, and Fistula's, which will be declared when we come to speak of their Cure.

The

The Clyster-Syringe, and Pot, are very necessary, with Pipes of several sizes; there is also belonging to this Instrument, a crooked neck like an Elbow, that in what manner soever the Patient lie, the Medicine may be administered to him, and therewith also one may give himself a Clyster. You must also have a Clyster-Pot with a Spout, the better to deliver into a Syringe the Liquor without a Funnel. If the medicine will not enter, then with *Spathula mundana*, draw out part of the Excrements, and then give your Clyster: moreover, many are so weak, that cannot retain the Medicine, you shall then make use of some soft Clout, or Towe to hold it in.

The Catheter, and searching Candles, are very necessary in obstructions in the passage of the urine, or neck of the Bladder, which by a Syringe cannot be removed. When you use it, put it in gently, with the crooked part downward, so far as it will be put in, being first anointed with a little oil, then feel by the root of the yard near the *anus*, with the forefinger anointed, (or the middle finger of thy other hand) where the end of the *Catheter* resteth, or beareth out; then put in the *Catheter* yet further towards the *anus*, bearing down a little the lower part of the said Instrument with the upper hand, which stayeth the *Catheter*; then together with the help of the

the lower finger of the other hand, turn the *Catheter* upwards, putting it also forwards a little, and it will slip into the Bladder; then draw out the Wire within the Instrument, and the urine will come forth, still keeping the Instrument carefully within the Bladder, till all be run out, that gently will come without forcing. Moreover, you may, by putting in the longest finger into the Patients Fundament (the *Catheter* being in the Bladder, and the water drawn out) feel easily if any Stone be in the Bladder; the party grieved standing, and bending his body likewise forward. Searching Candles of Wax will be also necessary in Caruncles, or Ulceration of the neck of the Bladder, or passage of Urine, by them you shall find out where the grief is, and be able to convey apt Medicines thereto. When by the Candle you have found the certain place of the grief, which you shall perceive, when you thrust the Candle into the Yard, by the Stops and Stays which it shall find in the said Passage; be careful to observe the just length to the further end of the said Stop or place agrieved; and there if you mark your Candle well, you shall perceive the full length and breadth of the Disease; then upon the said Candle you shall fasten the Medicine you intend for the grief; as if there be spungy flesh, a little *alumenustum*, or *virgolumustum*,

&c. will be proper, which print, according to the depressed part of the Wax, into the Candle, and convey it warily to the place, and let the candle remain in the Yard, but have a care you keep it not in, till the Wax melt too much; then draw it out, and arm it as before, and put it in again, and ever alter your Medicine upon the searching Candle, as you see cause; and forget not to use good injection also, which will help much.

Cupping-glasses of several sizes you shall find very useful, as to fasten upon a *Bubo* to bring it forward, &c. also to set upon the upper part of the Shoulder-blade, or on the Thighs for the cure of the *Sciatica*, &c. or to draw Blood to a member wanting nourishment, and to attract Humors to a place: also they are set with scarification to draw Blood out of any member; then light your Tow, clap it on, then press the skin with your finger close to the Glass, and it will come off; then take a Lancet and lightly scarifie the place, and then set on your Glass again, and draw as much blood as you shall think fit; then wash the place with fair water, and dry it with a Sponge, and anoint it with a little fresh Butter, and it will be whole; scarifie not too deep.

Blood Porrengers are necessary, thereby to know the quantity of Blood let forth.

Spatula

Spatula Mundana I have used in extreme costiveness, when no purging medicine would do good; you may, if occasion offer, open the *anus* with the *Speculum ani* first, but most commonly it is easily forced into the *anus* of it self, being anointed with grease, and so put up the Spoons end, and therewith draw out the hard excrements.

The Dyet-Pot is made of Copper or Earth, and is to boil drinks of several sorts in.

Of Lancets, the Artist is to have always a Case of good ones in his Pocker. When you use them, you shall make a ligature about the Arm, some three fingers breadth above the place you purpose to cut, in this manner: Take a Yard and half of your Worsted Gartering, or Lint, or a Womans Fillet, put your bandage upon the arm, and turn the ends both round the arm, and meet them together on the outside, so that it come twice about the arm, and then tie them on a single bow knot, which will easily be loosed upon occasion; then chafe well the vein, that it may rise full; make your Orifice not deep, nor too large; when 'tis too small, 'twill presently swell: always strike the vein a little cross, not just along, nor quite overthwart, but slanting. When you have well noted the place you intend to cut, you shall lay your Thumb gently upon the vein just by that place, and with
your

your Lancet in the other hand, as far as you shall think fit cut the vein, a little stretching up your hand by the slackening your ligature the blood will stay; then with your fingers crush the blood out of the orifice, and lay on a Pleget of Lint dipped in cold water, and a linnen bolster upon that, both which ought to be laid in a readines before the ligation be made, and then with the hand bind up the arm, going crosse above and below the elbow, still making the band to crosse upon the bolster, make it fast, not too hard, and so it must remain till the next day.

If the Patient faint in the bleeding, let him put his finger far into his mouth, and press down the root of his tongue, and force himself to kecke, or throw cold water in his face, and lay him at full length; but if he swoon, then bow him forward, and clap your palm of your hand close upon his mouth, stopping his Nose betwixt your finger and thumb.

If any come to thee to be let blood, do it not without good advice of a Physician; and when thou goest according to his directions, whatsoever happens, thou shalt go blameless.

The Veins usually opened are these following.

The first in the Arm is called the *Cephalica*, or Head-vein, and lieth upper-most on the outside

outside of the Arm, without danger of either Nerve or Artery.

The next is the *Mediana*, or common Vein, because 'tis most commonly opened. It is cut generally in any affect of the body; beware of pricking the Nerve lying under it.

The third is the *Basilica*, *Epatica*, or Liver-Vein, and lieth on the inside of the Arm, and hath an Artery lying under it.

And because all Veins have the same original, therefore you shall bleed the most apparent, and free from danger.

The fourth is the Vein in the Forehead, in Phrenies, pains of the Head, Rheums, &c.

The fifth is that under the Tongue, in the Squinancy, Inflammation, and swelling of the Amygdals, or Almonds of the Throat, Apostumes of the Mouth or Throat, or root of the Tongue.

The sixth is the *Saphena* lying under the Ankle, and is opened in warm water, chiefly to draw down Womens monthly visits.

The Artist fitted with these Instruments, shall keep them very clean, oiled, and rowled up in oily clouts, and when he hath used any of them, rub them very clean, and have also in readines these things following, viz.

Searces of Hair and Lawn, Splints, Tape, Sponges, Rowlers, a Mortar and Pestle, Strainers, Juncks, Tow, Clouts, Thread and Needles, to make Rowlers.

Thou:

Thou hast all this while Reader been in the *Theory*, now in short of the *Practick*, in the Cure of *Tumors*, *Wounds*, *Ulcers*, *Fractions*, and *Dislocations*, wherein lies the most common and major part of thy Profession.

OF TUMORS,

And first in general.

A *Tumor* is a Disease wherein the parts recede from their natural habit in quantity, hindring their action. *Hippocrates* call'd it *Oedema*, from *Oedein*, to swell; the *Arabs*, *Apostema*.

The differences are from the four Humors, or some solid matter, as in *Hernia's*, &c. now *Tumors* are either natural or unnatural, simple or mixt; as from pure blood proceeds a *Phlegmon*, from impure a *Carbuncle*, *Furuncle*, *Phyma*, *Bubo*, &c. to *Oedema* are reduced *Wind* and *Water*: from pure *Choler* *Erysipela's*, if corrupted *Herpes*, &c. from *Melancholy* *Schyrrus*, from its uction, *Cancers*, *Leprosie*, &c.

The causes of *Tumors* in general, are *Congestion* and *Fluxion*. The first is from the faculty ill concocting, or expelling; or if the excrements are thick, cold, or the ways obstructed,

structed. The second is, when the whole Body, or some part, being irritated by the quantity or quality of humours, transmits them to another, as the Body to the *Glandules*, the principal parts to the *Emunctories*, the stronger to the weaker. To these add pain and heat, which properly do not draw, but irritate the expulsive faculty; thin Humours flow, thick congest. The special causes are either procatactic, as blows, falls, vehement motion, &c. which are rather occasions, than causes; or antecedent, as the four humours, as before; which if they cannot be prevented, being shut up in some part, are called the con-junct, or continent cause.

The signs of outward *Tumours* are apparent to the sight. As for the Cure, they have four times; first the beginning, *i. e.* when the part begins to swell; or when the Humor is yet crude, or some light Symptoms appear: the increase is, when Humors begin to concoct, Symptoms grow greater; for till *Pus* is made, there are oftentimes great pains and fevers. The state is when the *Tumor* hath done increasing, the matter is concocted, the Symptoms are very grievous: The declination is when all is quiet. For their end, 'tis either by Resolution, which is best; or Maturation, which is next; or in hardness, which is worse; or in Putrefaction, which is worst.

Now

Now they are likely resolv'd when the matter is thin, maturated by Nature's getting the Victory, indurated either by the immoderate use of things resolving the thinner part, the thick remaining, or the too much use of coolers. Resolution is known by the lightness of the part, little pain and pulse. Maturation the contrary; of a *Schyrrhus* the diminution with hardness; of Putrefaction a black and livid colour. Sometimes a *Tumor* vanishes, the humor falling upon some other part, then the *Tumor* is diminish'd, but yet bad Symptoms remain.

These things being premis'd, you are to order your indications according to the times; first then the matter flowing is to be taken away, pain or heat that attract are to be aswag'd; if the part be weak, 'tis to be strengthned; then that which is confirm'd, is to be cur'd; if blood offend in quantity, call'd *Plethora*, *Phlebotomy* takes it away, if not much, Fasting, Watching, Friction, Exercise, &c. some of which are not so necessary in the Fluxion, because they irritate it. Other humours that offend in quality too, call'd *Cachochymia*, are evacuated by Purgation. Now these are administred either in the beginning or augment of *Tumors*, either for *Revulsion* or *Dirivation* sake. In the state and declination evacuation is convenient from the part affected,

sected. Now *Revulsion* is an aversion of the flowing Humors to a contrary part, or to the nearest the original of the *Fluxion*, that they may cease to incommode the part affected. To perform which well, the Artist must know that it ought to be done,

1. According to rectitude (not Mathematical, but Medical) of the *Fibres*, dispers'd to all oppositions, as above, below; before, behind; right, and left; within, without; 5 *Aph.* 58. which *Galen* proposes *l. de Revulsione*: the last the *Arabians* omit in their doctrine of *Revulsion*.

2. By the parts most distant, which is when there is a very great *Plethora*, else by the nearest; as when we apply Emplasters to the Head to reveal a *Catarrh* from the Breast, or sharp Clysters to prohibit Humors ascending to the Head.

3. To the original of the *Fluxion*, if it may be, but it is not always necessary, nor possible; yet it may be done according to all oppositions, as before. So the opening *Vena Frontis*, helps in pain of the hinder part of the head, though the original be not there: But if the original of the *Fluxion* be unknown, then we are to reveal to the parts most distant, as if from a *Vertigo* we fear an *Epilepsie* may succeed, *Canteries* may be profitably apply'd to the Thighs, &c. or a Vein open'd in the
lower

lower part : but that Vein is always to be open'd, which hath the nigheft communication with the part affected : as in the Pleurifie we let blood in the fame fide, becaufe of the nigher communion of Veins ; but the Thigh, &c. being affected, we cut the oppofite Vein, by reason of the communication from the fame *Vena Cava*.

4. By the common Veffels, which are not only the *Veins*, but the *Arteries*, *Inteftines*, *Ureters* : For the whole body is confluable and perfpirable, and is made of an unfeearchable harmony, as divine *Hippocrates* hath left recorded. Sometimes by hidden and unknown ways to us, though not to nature ; and which cannot be known by skilfulleft Anatomifts, and in dead Carcaffes they appear not.

Here note, that *Attraction* is rather an *Aversion*, than a *Revulfion*, and fo is not its true *Genus* as fome think ; for 'tis perform'd oft-times by *Expulfion*, as when 'tis caus'd by force of Medicine, *Canteries*, or *Vacuum*, which becaufe *non datur*, it hath no pofitive qualities, yet *Veficatories* draw. Again, *Revulfion* is not only convenient in Humors that are flowing, but thofe that are apt to flow, and that are influx'd, if they be but apt for motion, and may be averted to a contrary part, as *Galen* cure'd an inflammation of the eyes in
one

one day by purging. In *Derivation*, humors that have flow'd, may be deriv'd to other parts, *ergo* they may be mov'd; if they may be mov'd, they may be revel'd. Now

Derivation is an aversion of humors, by the neighbour parts, and hath respect to humors not yet impacted, but only quiet; for the Impact is to be dealt with by *Topics*, not to be order'd in the beginning, but augment of *Tumors*.

Thus having, I hope, made plain to you the doctrine of *Revulsion* and *Derivation*, you are not to forget in the mean while to apply to the part some repelling Medicines, as *Ovi Album*, cum *Ol. Rosar.* washed well in *Plantan*, or such like water, and *Bol. Ung. Alb.* &c. having a great care of using these too much, lest *Schyrrhus*, or *Gangrene* supervene. They are hurtful likewise,

1. If the *Tumor* be in the *Emunctories*.
2. If it be venomous.
3. If it be nigh a noble part.
4. If the *Fluxion* be critical.
5. If from an outward cause, yet *Repellers* are used in small bruises.
6. If it be in a *Cacochymic* or weak body; whence *Scabs*, *Small-pox*, &c. are not to be repell'd.

7. If there be great pain, *Repellers* will augment it. In *Congestion* there is no place for

for Repellers. Aqueous things repel weakly, dry ones are stronger; they are to be us'd in a hot air, great tumor, valid age, and habit of body; broad veins, in a declining part, gentler are for a cold air, small tumor, childhood, and Women; narrow veins, upper part, they are often to be renew'd. If by these means the *Tumor* cannot be hindred, you must use Resolvers, but in the augment let them be more sparingly mixt with Repellers. In the state let their quantity be equal, which must also be Anodine, because pain then chiefly urges. In the declination, let them be altogether Resolvers. If it cannot be dissolv'd, Suppuration is to be procur'd with hot and moist Peptics and Emplastics; for these prohibit the dissipating of the Spirits. *For* being made, the *Tumor* is to be open'd, either by a potential, or actual Cautey, or Incision-knife.

1. In the declining part.
2. According to the *ruga's* of the skin.
3. Taking heed of the Veins, Arteries, Nerves.

4. That the humour be not evacuated all at once, for wasting the Spirits; then it must be mundifi'd, incarn'd, consolidated, as you shall be taught: And likewise for the Symptoms, as *Hemoraige*, *Pain*, *Syncope*, &c. In malignant *Tumors*, as pestilential and venereal

real *Bubo's*, *Parotides*, &c. you are not to attend perfect Suppuration.

Now of the four Cardinal, or principal Tumors in particular, to which the rest may be reduc'd; and first of

P H L E G M O N.

IT signifies any Inflammation in general, even without matter, but here we use it for a Tumor from pure blood, which shut up in the Tumor, and so depriv'd of its natural circulation, will putrifie, if not prevented.

Sic vitium capiunt ni moveantur aquæ.

And if another humor be mixt with it, then is caus'd a *Pblegmone Erysipeladodes*, or *Oematodes*, or *Schyrrodes*; so of others: it affects the *Arteries*, *Veins*, *Nerves*, *Ligaments*, *Muscles*, *Flesh*, *Skin*, and the *Bones*, and *Viscera*. Its Causes before. Signs are a *Swelling*, *Redness*, *Heat*, *Shining*, *pulsific Pain*, unless it be far from an Artery; a Feaver succeeds a great one, or if it be in a very sensible and nervous part; dangerous, if great, or in an inward noble part, of exquisite sence, or in the *Emunctories*; if it return from without, inward evil, 6 Aphor. 25. the contrary safer,

fer, and the Body neither *plethoric*, nor *cachymic*.

The Cure is in greatest part laid down before; as by Venesection and Purgation, Clysters, cool, altering things; sleep cools, watching heats the Body; if Blood cannot be taken, use Cupping, with Scarification; then use *Repellers*, after *Resolvers*, and if they avail not, you must go to *Suppurators*; then open'd and cur'd as before. To *Phlegmon* are referr'd.

1. *Furunculus*, which is a sharp Tubercle, of the bigness of a Doves Egg.

2. *Phygethon*, broad, and participating of an *Erysipelas*; for the most part bred in the *Glandules*, after Pains or Fevers.

3. *Bubo*, not much different from the former, but chiefly in the groins, whence called; of which there are three sorts, *venereal*, which rise in the *Glandules* above the groin; *pestilential*, in those beneath; and *common*, in those a little above.

4. *Phyma*, which is also a *Tumor* of the *Glandules*, but less.

5. *Epiniētis*, so call'd, because 'tis most troublesome in the night, it's a pustule resembling a scab, its color sometimes red, sometimes white, having a red crown with great pain, and at length ulcerates.

Terminthus, is like the former, having a black pustule above and below.

7. *Anthrax*, in Latine, *Carbunculus*, *Ignis Sacer*, is a burning pustle with a bladder.

8. *Gangræna*, is a mortification of the part, in the bones, 'tis call'd *Sphacelus*. In the beginning, there is some hope of cure in a strong Body; if it be in a part which cannot be amputated, as the breast or groin, &c. 'tis deadly: let his diet be cool and and thin, &c. Venesection and Purgation, according to the nature of your Patient; cooling Cordials, with a little *Theriac*, &c. Scarifie the part, and wash it with Vinegar, or Water and Salt; then *farin, orobi, fabar, &c. cum Ægyptiac*. If putrefaction increase, separate it from the sound, by actual or potential cauterie, applying a defensive to the sound part; take away the *Eschar* with *Ung. Basil. &c. mundi* fie with *mel, vitel. ovor. far. bord. myrrhe, &c.* if it proceed from cold, use hot fomentations, &c. which is derided in cold Northern Climates, where they foment with Snow, and rub therewith, the outward use of hot things being deadly; and we must believe them. If from strait ligature, loose it, and scarrifie, as before. If from a great bruise, dilaceration of the vessels, amputate it; so if there be no vanquishing the putrefaction,

Ense recidenda est ne pars sincera trahatur.

for better *Decius* perish than all *Rome*; leave nothing that's putrifi'd, neither cut in a joint, but below, unless it be in the foot, then amputate below the knee; first purge, if you have time; then draw the sound flesh upward, tie it strait, about a fingers breadth, above the part corrupted, then cut the flesh to the bone, scraping away the *periostum*, then saw off the bone. Hæmorrhage to be stay'd by Cauterie, and Astringent Pouder, and artificially bound up for 2 or 3 days; then if it sticks, moisten with red Wine, remove the *Eschar* as before.

Now the Cure of those Tumors under *Phlegmone*, and so of the other three, are easily perform'd, the Cure of the principal being well understood; for *propter unumquodque tale, & illud magis tale*; so that I have been, and shall be shorter about them.

Erysipelas possesses the cuticular parts, as *Phlegmone* the fleshy; 'tis of a red colour, tending to citrine; touch'd, vanishes, and returns; pain more pricking than in *Phlegmone*, but swelling and beating less. Bad where the Bone is bare, or where it suppurates; in or about principal parts, in the face or neck, because of a *Phrensie* or *Quinsie*; 'tis bad to go inward, or upon *Wounds, Ulcers, Fractures,*

&c. or if it grow black. Diet cool and thinner; *Phlebotomy*, *Purging*, &c. less than in *Phlegmone*. *Topics* cold and moist; forbear when it changes its color: oft to be renew'd; use no fat or oleous ones. *Avicen* praises cold Water. *Galen*, Juices of Nightshade, Porcelane. Housleek, Letuce, with a little Vinegar; in extreme pain, add Hemlock, Henbane, Mandrake, Poppie, &c. Fullers-earth, or *Ceruſs* with Vinegar are good; the rest is performed, by observing what hath been said before; under this are ranked,

1. Virulent, corroding pustles, from *Herpes* to the *Cancer*: Now there are several species of *Herpes*, wanting names, but two chiefly to be consider'd, *miliaris*, because it contains within a matter like *milium*, and is superficial; *exedens* from thicker choler, ulcerating the skin; this degenerate into *Formica*, and that to *Cancer*. Diet, preparing the antecedent cause, as in *Erysip.* the conjunct not, for your *Topics* must be drying, as *Pomegranate flowers*, and rinds, *ung. alb diapomph.* &c. the rest as before.

2. *Impetigo*, or *Lichen*, is accompanied with great itching, ends in a scaly moist, sometimes dry Ulcer; *Topics* must be drying and deterging; if it be Leprous, use *Mercury*.

3. *Phyſtaria*, like bladders in burns, full of

of Yellow Water, Topics cold and dry, &c.

Oedema was a general name anciently for all Tumors, bnt now 'tis the name only; that caus'd of that part of blood call'd *phlegms*. 'tis *white, soft, lax, indolent, cold*; it happen, to *lax* and declining parts, as hands and feet far from the fountain of heat; if you press it, the print remains; it ends in resolution or nodes; common to old Men, and Gluttons, in Winter. Diet and Air must be thin, and hot, &c. and all things contrary to *Pblegmon*, and *Erysipela's*. Motion is good, in the contrary parts. Topics repelling, binding, drying, but not cooling. *Avicen* uses *Vinegar* with *Borax, lixivium*. *Galen* in the beginning uses a new Sponge dipt in *warm Oxycrate*; then *nitre* and *apbronitre* with *lixivium*, and *alum*, if need be, with strait ligature, beginning from the lower part, less vinegar to nervous parts *aq. calcis* is good. In the augment stronger, then attenuaters and resolvers, for it rarely ends in suppuration; if it do, expect not that it open of it self; but having artificially open'd it, proceed as hereafter in Wounds and Ulcers.

To this may be reduc'd,

1. *Emphysema*, or a windy Tumor, bred within the cavity of some part, as the Stomach, or in the muscles, resists the touch,

(whence it differs from *Oedema*) sounds like a bladder, shining. Here *Pblebotomy* is us'd, only to give breath to the wind included; purging, Topics, &c. as in *Oedema*: before you applie Topics, anoint the part with some *chalaſtic oil*. *Fetus* of attenuaters, with *emp. bac. laur.* and *cupping*, are good; some use *calx viv.* boild in Wine; others add *stercus columb. sinapis*, &c.

2. *A watry Tumor* is without pain, from a ferous humor; in the skin 'tis call'd *hydroa*, in the head *hydrocephalos*, in the cod *hydrocele*, &c. the natural heat is weaker than in *emphysema*, yet for the most part wind and water go together. It resists less, shines little, found as of floating; if the *serum* be salt, it itches. Topics as in *Oedem.* and *Wind*, adding *aphronitre, alum, sulphur*; the following is stronger, Rx. *sem. sinap. urtic. sulph. spuma maris. aristoloch. bdel. ammon. in aceto dissolut. an. ʒiii. ol. antiqu. ceræ, an. q. s. F. Empl.* which, saith my Author, resolves Winds, Waters, Scrophula's, and all hardness, within a Week; *aque thermales* are also profitable; if nothing avail, open it, and cure as an ulcer.

3. *Glandula*, soft and moveable, intire, mostly in the Emunctories.

4. *Struma*, is harder, manifold, fixt, oftneſt generated in the neck.

5. *Ganglion*, bred about the nerves, and articles;

articles; 'tis indeed a concretion of the nerves, by a blow or labor, small, the skin color'd, hard, indolent, if press'd, a numbness is perceiv'd.

6. *Lupia*, round, soft, bred most in joints and drie parts.

7. *Nodus*, round, hard, possesse the nervous parts.

8. *Testudo* a great Tumor full of melleous humor.

9. *Talpa*, or *Topinaria*, is a species of the former, in the head.

10. *Natra*, a great Tumor like a Cucumber, &c.

11. *Atheroma*, contains a humor like *Puls*.

12. *Strumoma*, like sewer.

13. *Meliceris*, like honey.

As to the last three, note that they often contain all kind of matter aforesaid, and sometimes stones, bones, hairs, &c. and have all a *cystis*, and increase by degrees; and *Atheroma* is longish, if prest returns slowly; *Meliceris* is rounder, yields easily, and quickly returns; *Steatoma* safer than the rest, and hath a larger *Basis*; yet *Atheroma* may be suppurated, *Meliceris* resolv'd, but *Steatoma*, only cur'd by Chyrurgery.

As for others the loose have a *cystis*, the fixt none; the new and soft may be resolv'd, the hard and inveterate not; painful and red,

portend a putredness, fistula, cancer : diet, &c. as in *Oedema*.

In the Cure of these observe,

1. If the excrescences be small, soft, *cystis* thin, tare them away with the fingers, or instrument, as *Guido*, Prince of Chyrurgions, counsels ; then dried with a Plate of Lead, or *ung. è plumbo usto, fuliginæ cum ol. & aceto*.

2. The moveable that will not yield to Medicines are to be open'd, the *cystis* taken away, having always a care of veins, &c. as in the head, belly, &c. make your incision long, or across, then warily separate the Tumor, for breaking the *cystis*, either with fingers or *spathula*, and draw it out ; if any remain, absume it with *septics*, or *caustics*.

3. Those that have a small root, are to be tied strait, with hairs, or silk, &c. till they fall off.

4. Those that have a broad basis, and fixt, are to be eaten away by caustic, and then cur'd as ulcers, applying cool defensives about the part.

Schyrrus is a hard, livid, indolent Tumor, caus'd of melancholy, hard phlegm, or both : if from unnatural, or mixt humors, it hath sense, and is curable, the other hardly ; seldom possesses rare and soft parts as the lungs, often hard, as tendons, ligaments, &c. *liver,*
spleen,

spleen ; that which is hard by driness, scarce admits a cure ; very apt to degenerate into a Cancer, Diet, Preparation, &c. moderately hot and moist : If blood abound, and wonted evacuations suppress, procure them by *Plebotomy*, *Leeches*, &c. preparing and purging with *Melanogogues*. Topics are here warily to be us'd, for there's danger of inhardening from too much Resolvers, and corruption from too great Softners, whereby it cancrates ; therefore Emollients are to be mixt with Resolvers. Hardness proceeds from Repletion, as in *ascite*, *tympanite* ; or from coldness, as in Ice ; or from exiccation as in the joints : The first requires Evacuators, the second Calefiers, the third Mollifiers : If from coldness and driness together, Calefiers and Mollifiers : If from cold and repletion, Calefiers and Evacuators, The Tumor softned, you may use vinegar warily ; because though it resolve, it hurts the nerves. *Galen* us'd *foetus*, and fumes of vinegar, made hot with flints ; then return to Emollients.

To this is reduc'd, 1. *Cancer*, a round, hard, malignant Tumor, of a dusky color, painful, burning with swollen veins about it ; beginning from the bigness of a Bean, but hugely increases, especially if irritated by hot things ; possesses *Glandules* and *Dugs* ostest ; chiefly after suppression of months

and hæmorrhoids, 'tis a particular *Elephantiasis*: If confirm'd, 'tis not cur'd but by excision; *better leave it, than attempt the Cure*, 6. *Aph.* 38. unless you cut up by the Roots, 'tis in vain, for 'twill not be cicatriz'd. Diet cool and moist, *Phlebotomy* altering, purging melanch, humors, are oft to be repeated. *Fountainella's* in fit places are good. Topics must refrigerate, as *suc. solan. cum Tutia*, for sharp ones accelerate an Ulcer. *Lytharge, ceruss. cum ol. ros.* were sufficient to *Galen*. *Avicen* praises Water Crabs with brass oar. To either add *suc. semperviv. plantag. symphyt. burs. pastor. acetos. lactuc. portulac. polygon. &c. mucilag. psyllii*; some add *papav. hyoscam. mandrag. &c.*

2. *Verrucæ*, like hillocks in the body; some are called *myrmecia*, because by scratching them, 'tis like the biting of Ants; they have a broad *basis*. *Acrochordones* a narrow hanging one, *Thymi* resemble the flower of the herb, have a narrow *basis*, but sharp, reddish, hard, with a broad head; increasing, they are call'd *Ficus*, they chiefly infest the hands, feet, thighs, *anus* and *privities*. Many things are laid down for their Cure by Authors, as *Elater. cum sale*; *suc. tithymal. sublimat. sulph. viv. stercora avium, ovium, colutabar. caprar. cum aceto. ol. vitriol. aq. fortis*, which last, all other failing, the learned Dr. *Primrose* says, cur'd

myrmecia

myrmecia in his hands, when a Boy. Excision, where it may be, is safer than the actual or potential Cautery. Bind those strait that hang down, till they fall off. In *Galen's* time they tore them out with their teeth.

3. *Varices*, are veins dilated with melancholy, flatulent, sometimes pure, or pituitous blood, *cap. 4. de atra bile*; offest in *scroto*, thighs, leg, sometimes by too long standing; hence *Varicosus Auruspex*, *Juvenal*. They profit in melancholy diseases, *Aph. 2. l. 6.* suppress't they cause them, therefore hardly cur'd in those troubl'd with the spleen. After general remedies and preparations, cur'd as *Aneurisma*, but Incision wants not danger, lest the suppress't melancholy blood should fall upon the *viscera*.

Aneurisma is a soft, lax Tumor, caus'd from a dilatation of the artery by its blood; some say ruption, the skin remaining whole, but then the blood would putrifie, &c. 'Tis familiar to the breast, throat, groins, Women with child, because of the compression of spirits; also a wound of the artery, whether illy clos'd, or one coat hurt. Tis indolent, with troublesome pulsation, being prest goes inward, which it would not do, if the blood was extravasated: neither doth it beat in great dilatations; here's fear of a Gangrene. If inward, 'tis not to be cur'd, nor where

Chy-

Chyrurgery cannot be perform'd, as the throat, &c. but you must use a cool diet, astringents with compression and strict binding, or a plate of Lead, &c. If these fail, tie the ends of the artery, and cut it in the middle.

Thou may'st expect, perhaps, Reader that I should have said something of the doctrine of the *Chymists* concerning *Tumors*; but the smallness of this Volume will not permit: Moreover, when I consider what our famous Dr. Read hath left to the young Artist about it, I think it may suffice; for he tells you, *Their doctrine is full of difficulties, which they make more obscure by coining strange words; so that 'tis but a kind of canting Philosophy: And calls it the Carbonary Cure of unlearned Alchymists; and if any one will mispend good hours, let him read Paracelsus's great and little Chyrurgery, says he, which are like Clouds without Rain.* Thus that Learned Doctor.

Of Wounds, and first in general.

A *Wound* is a solution of continuity, from an outward cause; in the flesh, the Greeks call'd it *trauma*, in a bone *catagma*, in a nerve *spasma*, in a ligament *apospasma*, in a muscle *thegma*, in a vessel *thlasma*, *Gal. method. medend.*

dend. lib. 4. The differences in their places, Causes, any thing that may separate the harmonious œconomy of humane nature, as a sword, dart, bullet, bite, overstretching, fire, &c.

The diagnostic Signs are apparent. As to the Prognostic.

1. Great Wounds are dangerous, by reason of the excellency of the part, malignity or magnitude of the Wound; yet a small Wound illy handled, may prove mortal.

2. If the bladder, brain, heart, midrif, liver, small guts, stomach, be wounded deadly, *Aphor. 18. lib. 5.* because of their necessity, viz. if they be great, for a small particle of the brain lost, the Wound hath been cur'd; so in the substance of the liver; so in the fleshy part of the midrif, bladder, (as in extracting the stone) stomach. But Wounds penetrating the heart, brain, are mortal, because of continual motion, and loss of spirits; yet *Galen* upon this *Aphorism*, says he saw at *Smyrna*, a Wound penetrating the brain cur'd, but adds, 'twas Gods will. Also of the midrif, and lungs, for their motion and remedies not touching them. The same of the cartilaginous parts of the wind-pipe, because bloodless, and always breathing; the *Wezan*, for the frequent passage of meat and drink; the great veins and arteries, for effusion

sion of blood; the reins, because they are the sink of bad humors; and remedies come not to them but by divers *mæanders*. The spleen not so dangerous.

3. Wounds of the joints, and those in the end of muscles, ligaments of the temples, because nervous, whence follow death of the whole, or part, or loss of motion, because of convulsion, and such bad symptoms: but if tumors appear there is least danger, because they avert the humor from the brain.

4. In very scorbutic, cacochymic bodies difficult. The Spring better than Winter, for cold hurts, 5. *Aphor.* 20. by hardning the skin, hindering suppuration, causing feverish shiverings, spasms: Heat contrary, yet too much hurts; better in young, than old.

5. A bruise worse than a cut, *ceteris paribus*; a great cut worse than a small bruise.

6. Spermatic parts are united by the second intention, as a bone, prepuce, &c. by a *callus*, cicatrice, and so more difficult than sanguine, as the flesh, &c. which unite by the first; yet veins and arteries being soft in children, may consolidate.

Now the general intention of curing is union, which *lippis & tonsoribus notum*; but how 'tis perform'd, *hic labor, hoc opus*; for *natura est morborum medicatrix*, the Artist is but natures Minister, who, to perform his part

s. a. citò tutò & jucundè, (wherein lies his glory) makes use of five subalterne Indications.

The first is to remove extraneous and heterogeneous bodies; either with, the organ of organs the hand, or other instrument; if the wound be too strait, 'tis to be enlarg'd safely; put the Patient in the same posture he was wounded, to draw forth the Weapon the same way if possible, if not the opposite, if neither, for sometimes

Ægrins adimitur quam non admittitur hospes,

leave it to Nature. Some believe Medicines draw, of which before; but trust them not much, neither those of the Loadstone and Ambar; for these poudred, lose their attractive virtue.

The second is to join the separate parts as gently as possible; if they be rigid by cold, foment them with a mollifying decoction; which avails little, unless by

The third Intention he conserve them so join'd by ligature, or future; the first hath three sorts:

First, The *Retaining*; for parts that admit of no other, as in the neck, belly, and painful tumors, &c. 'tis done with a rowler of one or more heads, beginning at the part affected,

affected, and sowing it on the opposite. Here you may see, according to Divine *Hippocrates*, *Some Bandages are Remedies themselves, others subservient to Remedies*; of the last kind is this, the following of the other.

Secondly, The *incarning* or *glutinating* for fractures and fresh wounds, not deep, or transverse, but long; 'tis perform'd by a rowler folded on both sides to the middle, beginning at the opposite part, bringing one head upwards, the other downwards cross ways, to be straiter upon the wound than other parts.

Thirdly, The *expelling*, for deep, hollow wounds, to press humors from the bottom to the orifice, and prohibit influx of humors; it reaches from the lower part of the Wound, to the upper, where it's to be laxer, unless it be to prevent fluxion, then straiter. This operation is of so great use in Chyrurgery, that there is not any thing of consequence to be done without it; and in the Cure of Wounds so great, that some Years since, among others, *Septalius*, a famous Physician, practising at *Milan* 40 or 50 Years, writing learned Books; and *Magatus*, a famous Professor in the University of *Ferrara*, condemned the use of tents, and give almost all the effect and glory of the Cure to Bands and Bandages, helping to maintain, with Emplasters;

plasters, the natural heat, on which depend (say they) the whole Cure.

If any shall object, that this operation is not observ'd in the Cure by the Weapon Salve, attributed to *Paracelsus*.

I answer, the use thereof hath been condemned by reasons of the most sound Theology and Physick, and the Author noted for impiety and magick: so I would not have thee to trouble thy self about it: and the great *Senertus* hath learnedly refuted its use. The same may be said of the Sympathetick Powder.

Suture is threefold likewise,

First, Incarning is for all Wounds where deligation is not sufficient; 'tis done either by a thred rub'd with white Wax, drawn first through the middle, then on both sides the Wound; or by leaving Needles with thred twin'd about them till consolidation; or by cloths, call'd the dry stich, where a deformity is fear'd. Take two pieces of cloth folded, triangular, or quadrangular, according to the fashion of the Wound, dip them in agglutinating Medicines, of *sang. drac. mastic. ichthyocol. sarcocol. gum. arab. trag. &c. cum alb. ovi.* apply them to both sides a fingers distance, when they are dry sowe them close.

2. Retaining is the Skinners stich, for the veins,

veins and guts; suspicious, because one stich broken, the rest are lax'd.

Thirdly, Conserving differs not from the rest, only laxer for torn Wounds with loss of Substance. Stich not before pain and tumor be abated, or in bruises, or bites of venomous beasts, or if alter'd by the air narrow and deep, or where the bone is bare or broken.

Here may be said something,

1. Of *Bolsters*, made of linnen, cotton, &c. doubled, sometimes dry, sometimes moistned in *oxycrate*, *wine*, *oil*, &c. to imbibe *Ichors*, conserve heat, or ease hardness of bands.

2. *Plegets*, *Tents*, &c. to mundifie or incarn, made of lint; if to keep open, of lead, &c. to dilate, of sponge, elder pith, &c.

The 4th Intention is to conserve the parts temper, which is done,

1. By convenient *Dyet*, thin till the 7th day, observing custom in what may be, for 'tis not easily alter'd on a sudden; much loss of blood, requires more nourishing; sleep long, if much pain; troubles of the mind, and coition hurt.

2. *Phlebotomy*, unless a great *Hæmorrhage* preceded.

3. *Purgations*, *Clysters* evacuate, revel, dry, as before.

4. *Topics*,

4. *Topics*, to be repelling; dryer in a dry part; in a small Wound, moist part, hot time and region, milder, *è contra* stronger, apply'd *cum album. ovi, & hares furr.*

5. *Glutinaters*, of which before.

Here comes in the use of,

1. *Vulnerary Potions*, which are not proper in fresh Wounds, because, as commonly set down, are too hot; in old ones, ulcers, &c. they may.

2. Of *Balsams* before; and that incomparable liniment of *Arcæus*, never enough to be extoll'd.

The 5th Intention is the correcting of *Symptoms*, which hinder healing. Pain appeas'd by *Anodynes* or *Narcotics*, before; *Tumor*, before. Hot, cold, dry, moist intemperature of the parts cur'd by its contrary, as before. *Convulsion* in Wounds of the Nerves. *Syncope*, *Delirium*, *Vigiliæ*, in their places. *Pruritus* comes from sharp humors, *Excoriation* from scratching, sometimes inflammation; foment of salt water warm, *ung. de Ceruss. alb. popul. &c.* are good.

A Wound in the ~~fl~~ is simple, or with loss of substance, superficial or deep; in the first, observing the premises, if blood flow too much stop it, else 'tis good.

A hollow Wound, or with loss of substance,

stance, is not only to be united, but incarn'd; the two excrements thin *sanies*, thick *fordes* mundifi'd and dry'd: Astringents, detaining the excrements, hurt; detergers 1. degr. dryer than the part; hot require hotter, &c. so in moist parts *Thus* generates flesh, and dries; in dry, moistens and suppurates. Weak *sarcotics* beget plenty of *sanies*, soft flesh, strong *è contra*: reduce the high part to the same temper, regard contrary Indications, as if the Patient be of moist nature, the Wound in a dry part, and *contra*; the Medicine must be drying 2, 3. degr. so of age, time of the Year, region, &c.

The Wound fill'd with flesh, is to be skin'd, which is Nature's work yet imitated by *sarcotics* of 1. Glutiners. 2. Or Cicatrizers of the 3d degr.

If by neglect, or too long use of *Sarcotics*, omitting *Epulotics*, there be *Hyperfarcosis*, which is a solution of continuity complicate with increase of magnitude, remove it by dryers in 4. degr. not so in themselves, but to the part; which observe in other cases.

In a bruised Wound, is *dilaceration*, *tumor*, livid colour. *Universal* premis'd, as in *Revulsion*, apply to the part *lenients* and *mastrurants*, to the Wound *digestives*, &c. if necessity for *suture*, let it be lax. *Echymosis* or a contusion without a Wound, is a deep laceration

tion in musculous flesh; *Subcuticular*, effusion of blood, *livor*, *dolor*, following: if great, a Gangrene's in danger. Universals premis'd, appease pain, defend the part, bind strait; after if the humor be thin, resolve; if it cannot be resolv'd, use cupping with scarification, or, if need, suppuration, open and cure *f. a.* inwardly are wont to be given things to dissolve blood, of *rhobarb*, *mummy*, &c. in wine, oxymel, syr. limon, acetos. &c. if need be, wrap the body in a sheeps skin, newly kill'd, anointing with resolving unguents.

In venomous Wounds use not dryers, repellers, but drawers, mundifiers, as cups, cauteries, &c. beware of sleep; Animals cut in the middle, both draw the venom, and ease pain; if the part be ignoble and dangerous, cut it off.

If the veins or arteries be wounded, much blood flows, and so *syncope*, &c. at last death. Arteries leap. Revel, thicken with Medicaments, and Aliments, stupifie and cool inward and outward; use the skioners stich, if no loss of substance, with astringents; or cut the vein transverse, or take the artery with your forceps and tye it, using *sarcotics*, let it untie of itself; or by actual or potential cautery, more proper in corrosion; procure not the fall of the Eschar. Or make a *thrombus*, by putting your finger to the vessel; then cure *f. a.* note

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an artery requires stronger medicines than a vein.

Nerves are wounded by puncture, scissure, contusion; a puncture, is close, or open; scissure, long or transverse; signs are hurt of sense and motion, convulsion, &c. and if the whole Nerve be cut; nay, it may sometimes be divided to prevent danger, for better Decius perish than all Rome, in a puncture, because *sordes* cannot evacuate. Good if a tumor appear, ill if it go in, or appear not, 5. *Apho.* 65. 66. if soft, good; hard and crude, bad; ligaments and tendons are less dangerous; to which agree dryer medicines, chiefly if they issue from bones. Here pain is chiefly to be regarded, Union not needful in a puncture; cut a vein, and purge, though no *plethora*; if a spasm happen, anoint the head, neck, back, &c. *ol. lilior.* &c. in tumors use not maturants, because they putrifie the nerves; to the Wound use *ol. terebinth. sabin. hyperic. com.* &c.

A Nerve cut, if much, stich the lips of the Wound, using universals as before, keeping in the lower part a tent of digestives, not sarco-tics, till danger of spasm, and inflammation be past.

If a Nerve be bare, abstain from *Euphorbium*, &c. applying dryers without sharpness, unless the Wound be very putrid; apply them
not

not with water and oil, because that corrupts; this weakens Nerves if bare; otherwise if cover'd.

A bruise'd Nerve needs dryers and binders, never omitting preparations of *terebinth.* in all concerns of the Nerves, some add *sal. mel. sulphur*; in contorsions only emollients fit.

A Wound in a bone differs from a fracture, because this is without incision; 'tis united by the second Intention. *Erysipelas*, or cold upon a naked bone, ill; great bones cut, that the marrow flow out, dangerous, for fear of a Gangrene, draw not away the fragments suddenly, but assist Nature by attracters, then use stitching, very strait bandage, with universals: in the declining part leave a tent of *mel. rosat. terebinth, myrrhe*, upon it astringents, *cum alb. ovi*, then as in Nerves. *Calius* elsewhere in Fractures.

The Head may be cut or bruise'd with, or without a wound, fracture, penetrating, or superficial, great or small, simple or compound, with laceration of the membranes, and substance of the brain. A Wound with a fracture penetrating, is either small, neither pressing, nor pricking the brain, or great, which doth both; or 'tis only a depression, as in copper vessels, which happens to Infants; or that part smitten, but the opposite is cleft. *Hippocrates* calls them by divers names. A

con-

contusion is known to all ; *Rima* is a small division, the bone keeping its place on both sides ; *Sedes*, when the print of the weapon remains, the bone keeping its place. *Defidentia* is the bone remov'd from its place, which sometimes presses the membrane. Depression is call'd *thlasia*. *Camerosis*, when one or both tables elevated, 'tis rare ; *Eccope* when part of the bone is amputated ; *Apechema*, when the contrary part is cleft, which many deny.

If the signs of a fracture appear not, they must be guess'd at from the cause, as a great blow, fall, wound, instrument ; if he move his hand often to his head, *vertigo*, *caros*, loss of speech, motion, vomit, follow from the beginning a great fracture *è contra* less : though these may happen without a fracture, from a concussion, or blood flowing upon the brain, and putrifying ; 'tis known also by a Probe, if it feel smooth, the bone is whole ; if rough, if not upon a suture, suspicion 'tis broke. If he hold his breath, moisture passes at the fissure. If thred held in the teeth, be struck, or any thing broken with them cause pain ; if ink black the fissure : also lay an Emplaster ; if one part be dryer than the other, there's the fracture. If the Membranes be cut, pain, *vertigo*, blood at ears, nostril, palate, loss of motion and speech follow, *agrè dormit excernit & mingit.*

If

If the Brain be hurt besides these, the principal faculties are hurt. If there be an inflammation, the head swells, eyes inflam'd, with convulsion and phrenie. No Wound on the head is to be contemn'd, oft only a contusion, oft an incision of the *pericranium*, proves dangerous. All symptoms are worse the sooner they appear: oft they lie hid till the 7th day; a Pallie of the hurt side, a spasm of the opposite follow the membranes wounded. Wounds of the sutures are to be feared, chiefly of the temples; *sedes* also there dangerous. *Pia mater* black, bad, a small tumor, good *sanies*, red flesh, good. Danger not past till the 100 day; greater in the full Moon; *Callus* not perfected till the 35th, small clefts ill; also if the outward Table be whole, and the inward cleft; so *apechema*, because *sanies* cannot be discharg'd at the Wound; general Prognostics are to be reduc'd higher.

About the Cure are divers opinions; let dyet be thin, shun too much cold or heat; premit universals; shave the head, and mitigate accidents. Bind with a two-headed rowler, according to the length of the forehead, rowling it towards the ear opposite to the Wound, and from the other part towards the other ear.

If the Skull be hurt, enlarge the Wound if

need be, cut not transversly in the forehead, lest the eye-brows fall; nor in the temples or future, because of the veins, nerves, &c. and connecting the *meninges* to the *pericranium*, make the cut thus X; if the bone must be scrap't, cut the *pericranium*: if only a little cleft, cure as before. If it penetrate the bone, cut it with scissers, or trepan, premitting Prognostics, as weak natures, shunning futures, lest the *dura mater* be hurt; before the 4th day in Summer, 7th in Winter, for fear of bad symptoms. *Hæmorrhagia* appeas'd with *oxycrat.* and *alb. ovi*, the next day use the trepan, then the scissers, and levatory, after cure as a fracture. Take away the fragments of bones, that prick the membrane; then some use dryers, for *siccum sano proximum*: others lenifiers; dryers that the membrane putrefie not, and so scale, as cephalic plasters and powders; dress the Wound with *lin. Arcei*. If the membrane be hurt, first use anodines, then dryers. If there be a tumor, *ol. ros. cum melle*, those that lenifie use *ol. ros. sang. columbæ*, &c. *mel. terebinth. ol. de vitell. ovor.* then use dryers, and if you deterge more *mel*, &c. some use *syr. rosar. brandy*, then *sarcotics*, *emp. beton*. If the membrane be livid, munditie; if blackness continue, deadly.

Wounds of the face have nothing peculiar.

Wounds

Wounds of the eyes are puncture, incision, bruise, dangerous for nobleness of sight, near the brain, loss of sight by diffusion of tumors; yet *Galen* saw an effusion of the aqueous humor cur'd, of all which before.

The Nose cut off closes not, else stich it; put pipes in the nostrils, to let in Air, and out sanies.

Wounds of the Lips and Ears, have nothing peculiar, neither, save shunning all thick, unctuous medicines, &c.

Wounds of the Neck are dangerous, because of the veins, nerves, arteries, &c. if the marrow be touch'd with the spine, motion is abolish'd; hoarseness follows Wounds of the recurrent nerves; bring your ligature across upon the Wound, and under the arm pits, and sowe it to the cap. Great Wounds of the *Trachea arteria* & *Oesophagus*, are united by stiching the flesh, and applying glutiners; and licking *diatragac*, cum syr. *symphyt. myrtin. troch. de Carabe*, &c. to the spine apply *ol. rosat.* warm; then mundifie and incarn. If the marrow be wounded transversely, 'tis incurable.

Wounds of the Shoulder and Arm, have nothing different, unless in binding, which ought to be strong, and in site; for the Arm wounded must be suspended, the Elbow extended.

If Wounds of the *Thorax* penetrate, Air issues, especially the mouth and nostrils shut; which a Candle, or wool laid to the Wound, shew; great weight felt about the *diaphragma*, blood spit with cough, difficult breathing, &c. blackness of blood, extreme parts cold, cold sweat, swooning, shew the heart wounded; short breath, red, frothy blood, with cough, paleness without pain, shew the lungs wounded; plenty of blood, strength failing, in the right side of the back, shew the *vena cava* wounded. From an artery issues redder, frothy, thinner blood, leaping, a trembling pulse, palpitation of heart, *syncope*, death succeeds. From the wind-pipe issues little blood, but great pain in the back, hoarse voice, satent vapors, fever. The Weasen wounded, meat passes difficultly, it and drink issue; pains are increased lying, lessen'd standing; thirst, unquietness, fevers succeed. The spine wounded, the inferior parts become paralytic, distended, urine, dung, seed issue, involuntarily, *deliriums*, but not always. The Midriff hurt, breathing quick and difficult, cough, pain, doting, livid spittle, thirst, belching, pricking rigor, the wound about the bastard ribs, the *præcordia* are pluck'd upward, pain reaches to the shoulder. Heaviness about the false ribs, putrid spittle, cough, fever, stinking breath, shew bleeding inwardly,

ly, because it putrifies, 6. *Aph.* 20. All penetrating Wounds are dangerous, because of the inflammation of *pleura*, and commonly end in *fistula's* or *empyema's*. Evil if black, or stent *sanies* issues; if a nauseousness, hichoup, vomit, or flux. More dangerous behind than before, because of the spinal marrow, arteries, nerves, ligaments of the heart. If they penetrate not, there's no danger, unless a nerve, or notable vessel be wounded.

Neither as to the cure have they any thing peculiar; begin your ligature at the opposite part, bring it cross ways upon the Wound. If a rib be broken bruis'd or depress'd, see in fractures: if it be bare, 'tis to be scrap'd, then the Wound cur'd, *f. a.*

But penetrating Wounds, if the *viscera* be not hurt, nor inward bleeding, are cur'd by sarcotics and ligature, without tents, permitting universals, and keeping open the wound; if any thing be scatter'd within, dilate the wound, if need, and put in a tent, tyed with a string: stich it not, lest the matter degenerate into *Empyema*, cause difficult breathing, because it cannot be vacuated by mouth, or urine, though it may sometimes be; whence in an *Empyema*, the side is forc'd to be open'd; upon your tents lay compresses dipt in *alb. ovi, ol. ros. vin. rub.* taking heed of metallics inwardly. If the matter be thick, and

will not issue, inject detergents, as *wine* and *mel*; and when it comes out as clear as it went in, then astringents. If matter lie upon the Midriff, and the sick strong, cut a new wound lower towards the spine, between the 4th and 5th rib; put in a tent with *ol. rosat.* warm, mundifie, &c.

Wounds of the *abdomen*, are known to penetrate the *peritoneum*, *omentum*, *intestines*, &c. which some time come out, by putting in a Probe, or injecting Wine, if it return not; the *Caul* is known, the *Stomach* wounded, *Chyle* flows, with hichoup, nauseousness, vomit, &c. The same of the *small guts*, in the great ones *faeces* issue; much blood at the right side, if the liver be hurt; on the left, if the spleen, with *Præcordia* contracted, pain, fever. The *Reins* hurt, Blood issues by urine, sometimes suprest. From the Bladder with great pain, vomit and hichoup, by consent with the stomach. From the Mesentery besides Blood, convulsions, from the nerves. Pain in the groins and thigh, follow the Womb wounded, Blood at the Privities, and by consent with other parts vomit, pain at heart, *delirium*, &c.

Of the *Prognostics* before.

To the Cure, if the Wound be great, first put up the guts, fomenting them, if need, with *aq. calid. vin. rub. ol.* or *carminant decoction*.

coction. If they will not return, enlarge the Wound; the same of *Omentum*: And if any part be black or livid, tye it, and cut it off: then sowe up the Belly, the Muscles and *Peritoneum* together, some the *Peritoneum* with the *Peritoneum*, *Abdomen* with *Abdomen*, leaving issue below for *sanies*. If the guts be wounded, sowe them with the glovers stich; other parts have nothing peculiar, only in the Bladder abstain from Diuretics and Purgers.

Wounds of the Thigh, Leg, and Foot, the same with the Arm.

Of Wounds from Gunshot.

The names of these Arms, *Bombarda* and *Scloppeta*, are borrow'd; the first from *Bombos*, i. e. *Sonitus*, properly of Bees, so *Persius*.

Torva Mimalloneis implerunt cornua bombis.

The other from *Scloppus*, a sound made with the cheeks, so the same *Persius*.

Nec Scloppo tumidas intendis rumpere buccas.

Concerning the invention of these Arms there are divers opinions; some attribute it to a German Franciscan Fryar, 1380. others say he was only the perfecter, for there was a

rude use of Guns before. For in the time of *Carolus Magnus*, who dyed about 810, or 811, *Gamofcus* King of *Friesland* kill'd the Count of *Holland*, with two of his Sons, with a Piece. *Nauclerus* says, they were invented 1213. *Froisard*, and *Petrarcha*, 1340, and 1374, mention Guns. *Mariana* tell us, when *Alphorsus* King of *Castile* besieged *Algezira*, a Town of the Moors, they shot out of it Bullets of Iron out of Ordnances. And *Matterus* says, they were used by the *Chineses* many Ages ago : which may not be improbable, they being a wise People ; so though the word *Arcubuse* may come from the *Italian Arco*, a Bowe, and *Buso*, a Hole, because it is as it were a Bowe with a Hole, or a hollow Bowe ; they may not be the inventers neither, though stoutly stood for by the learned *Ross*.

Now as to the nature of these wounds, they are made with contusion and laceration, sometimes fracture, seldom venenosity join'd ; for the common ingredients of Powder and Ball are harmless, and may be safely taken inwardly in divers diseases, as *Brimstone*, *Salt-peter*, *Aq. Vitæ*, *Coals of Willow*. For Lead and Iron, several preparations are made of them to be taken inwardly ; so that the bad symptoms, if any, arise from *Cacochymy*. The Signs and Prognostics, and Cure, as in other

other wounds: the chief being a Gangrene, I hope I have satisfi'd thee in; if not, see *Fallopins* or *Vesalius*, for one hath transcrib'd the whole Chapter from the other, scarce changing a word:

Sic velut è speculo speculum tralucet imago.

Also for Burns from any cause, thou may'st find a Cure before.

Of ULCERS, and first in general.

And here I shall not need to be prolix, being what's said of Wounds, will save me and the young Artift much labour, if he be ingenious.

Now an Ulcer, in general, signifies every solution of unity, from *elko*, *traho*, either because it distracts the parts, or it draws blood to it. So when the divine *Hippocrates* says, *Omnis morbus ulcus*, he is to be understood of Union Physical, which is the temperature; as well as mathematical, which is the figure. So the *Grecians* in general us'd the words Wound and Ulcer *indiscriminatim*, though in *special* they differ in Signs and Accidents, &c. Hence an Ulcer may be defin'd,

A Solution of Unity in the Flesh, with Sanies.
Solution of Unity is the *Genus*, whereby it

is common with Fractures, Wounds, &c. *Sanies* makes it differ from a Wound, and from *teredon* or *caries* of the Bone, because in a hard part. Now as *One* and *Being* are convertible, *Arist.* 10. *Metaphysic.* and *Unity* being the perfection of *Being*; so Health, which is the perfection of our Bodies, require *Unity* to the performing of the Functions; so that you see of what consequence is the preservation and restoration of *Union*.

By *Sanies*, I understand the excrements of Ulcers, which is any humor preternaturally alter'd; 'tis thin, cald, *Ichor*; or thick, *Sordes*, or mean, *Pus*. *Virus* is an excrement of thin; aqueous humors. *Sordes* the excrement of thick humors, and is three-fold, white, blackish, ashy, thick, unequal, concrete. *Squamme*, are small hard excrements, like Fish-scales, from nitrous humors about the Ulcer; *Crustæ*, are thicker, upon it.

Causes are sharp humors, corroding, &c. as before; *Differences* in their places.

Diagnostics are apparent, in outward, of which only here; great ones are dangerous; if of long standing, malicious: in annual Ulcers, the Bone must needs be foul. &c. *Aph.* 6. 45. Bad in the ends of the muscles of the back, hip, &c. round heal slowly.

An Ulcer, *quatenus* an Ulcer, must be dry'd; removing the cause, and symptoms first; if
flesh

flesh be wanting, use Sarcotoics. Dyet, Preparation, Phlebotomy, Purgation ; you have Rules for before. In the beginning, use, Suppuraters, unless it be putrid with flux of humors : in the Augment deterge, but not too much, for then 'twill become virulent ; which many thinking to come from the Ulcer use stronger, so hurt. Lastly, *Sarcotics*, *Epulotics*. Of *Symptoms* before. If the lips be hard and livid, see *Schyrrus*. If you succeed not, scarifie to the flesh, or use an actual Caутery, or *Ol. Vitriol. Sulph.* &c. to blackness scarifie, or use Cups, Leeches. *Worms* are to be kill'd with bitter and deterging things.

An Ulcer, with a corrupt Bone, is difficult ; the Bone feels soft, &c. much thin, livid, oleaginous, fatid, black humors flow, which is bad ; scrape the Bone, or scale it with Cathartics, as before. If carious to the marrow, cut off the Bone, where you may.

A virulent and corroding Ulcer, differ only *secundum majus & minus*, this more vehement call'd *Nome*, and *Phagedena*, and degenerates into *Lupus* and *Cancer*. *Nome* hath no tumor, *Phagedena* hath about the lips : cause, and all other things, as in *Herpes*, &c. *Topics* cold, dry, stiptic ; *Gnido* praises a plate of Lead rub'd with Quicksilver laid upon it.

A for-

A fordid and putrid Ulcer differ, *secundum majus & minus* : Begin with strong detergers, because the thick *sordes* oft resists the strength of medicines, and so proceed *s. a.*

A cancerous Ulcer is round, fætid, with hard, livid lips invers'd, with veins about it full of black blood, with much fætid, black *Sanies*, great pain, &c. after general Remedies, &c. if it may extirpate; else if it be inward, nigh a noble part, palliate, with refrigerants, as *aq. solan. ung. alb. plumb. ust.* and other Minerals, wash'd in a Lead Mortar, Plate of Lead, &c. some apply Chickens and Veal, which they say it eats, whence 'tis called *Lupus*.

A deep Ulcer hath a narrow Orifice, and broad, with many cunicles, without hard lips, wherein it differs from *fistula*; known by sending forth much *Pus*, and by a Probe, Wax Candle, or stalks of herbs.

After Universals, use mundifiers, dryers, and incarners, with expressing ligature, and if need, open it at the bottom; if danger, injections only.

A *Fistula*, sometimes sends out much, sometimes few excrements; Cure is difficult if old, nigh a noble part, belly, bladder, *vertebra's*, joints. If it be far from a noble part declining it preserves from diseases, so cure not. After Universals, use dryers inwardly,

as decoction of *Gnajak. Salsa.* &c. then dilate with *Gentian*, Spunge dipt in melilot plaster, with sublimate prest, elder pith oft breaks in taking out, then mortifie with *Catheretics, Septics*, &c. dissolv'd in vinegar, or *aq. medicamentos.* injected, some use Cauteries and Incision. To conclude, take here two much used Waters for old Ulcers and Fistula's.

The first is the great *Fernelius's aq. divina.*

Aqua divina Fernelii.

Rx. Sublimate gr. vii. aq. plantag. ℥ vi. boil them in a well glazed vessel, on coals gently, till half be wasted.

The other is,

Lapis Medicamentosis.

*Rx. Green coperus ℔ i. white coperus ℔ β. alum. ℔ iβ. sal. nitr. sal. com. an. ℥ iii. salt of tartar, wormwood, mugwort, cichory, arsmart. plantan. an. ℥ β. put them in a crucible, adding a little acet. rosat. boil them on coals gently, ever stirring them till they grow thick, then add ceruss. ℔ β. bol. armen. ℥ iv. mix them well together till they be hard, when cold, take it out. If you put in gums, as *Thus, Myrrhe*, &c. boil them
but*

but little; one ounce of this is to be dissolv'd in rain or river water, one pint, and filtred.

Of Fractures, and first in general.

A Fracture is a solution of continuity in the bone by bruise or cut; 'tis either simple or compound: the first long, transverse, oblique, or streight, complete, or incomplete. Compound with a Wound, Tumor, &c. known by inequality of the member, one part bunching, the other hollow, great pain from pricking the sensible parts, unable to move. If long, only tumor and pain. The transverse and near the joint difficult, so with tumor, wound, contusion, fragments, old; for in great extension, fear of spasm; in great bones, and manifold, all difficulty solidate: where are two bones, one only broke easier than both, because the whole sustains the broken, bad if with luxation. Arms and Legs knit in 40 days, thigh 50, the rest about 20. too strait ligature hinders nourishment and knitting.

If simple, the Cure consists in restitution, conservation of the bones, generating the *callus*, mitigating accidents. To which are needful a fit place, and Servants, three rollers, long and broad, according to the bigness of the part (which remember in Wounds
and

and Ulcers, &c. viz, commonly in Wounds six fingers broad for the shoulders, the thigh 8, leg 4, arm 3, finger 1.) soft *stupes*, moisten'd in *oxycrate*; splints of scabbards, pasteboard, leather, or iron, thicker in the middle than ends, Frames for the member, a Bed and Bed-pan, a string to raise him up; two Servants to help reduce, directing the bone on both sides, with hands, strings, or other instrument. The bone reduc'd, is to be conserv'd by ligature, and fit posture. *Hippocrates* counsels threefold ligature; the first ascending upwards from the fractur'd place, hinders flux of humor; the second descending from the same place, presses the humor; the third conserves both, and contains the splints, he moistens them in *ol. ros.* if a wound in *vin. rub.* the Patient can tell when bound too slack or strait. In the beginning apply gentle splints, then stronger, stir them not often, unless pain, tumor, urge; then the 3d day, else 7th, then his dyet may be fuller to beget *callus*; which if too small, known by touch and weakness to motion; attract aliment with *foments*, *frictions*, *pications*, &c. if too big, known by pain, and unaptness to motion, lessen it by a plate of lead, resolving *fomentus's*, friction with salt, streight ligature, thin dyet, &c.

If there be a wound, the bone cover'd, no frag.

fragments, reduce the bones, cure the wound as before, by future or ligature; binding flacker then if there was no wound; splints are less useful, lay them not upon the wound. If the bone be cover'd but some fragment to come out, known by much *sanies*, lips gaping, soft flesh, pricking; if it come at the proper place, draw it out with *forceps*, or leave it to Nature. If the bone be bare, sowe the wound to cover it, &c. if without the wound reduce it, or sawe off.

Of the Fracture of the *Cranium* and *Nose* before.

The *Ears* are rather bruised, than broke; use glutiners, with easie or no ligature; lie not on the side.

The *Mandible* is reduc'd, by putting your fingers into the mouth, setting the teeth even; binding them with waxt thred, or silver wire; begin your ligature from the *nuch*, and bring it upon the *mandible*, and behind the ears to the forehead; there sowe it, it knits in 20 days, dyet liquid.

The *Clavicle* is reduc'd, the bones well plac'd, by putting your knee between the shoulder, blade, strongly drawing them back, then reduce them with your hand; they are well in 24 hours.

The *Scapula's* rarely broke, unless in its ends, inward or outward; this is easly reduc'd,

duc'd, that difficultly; hath nothing peculiar, and heals in 24 days.

The *Breast-bone* is dangerous, pain, cough, difficult breathing, spitting blood follow; 'tis reduc'd as the *Clavicle*, pressing the ribs with your hand; applying medicines, rowl over all the breast, and sowe it upon the shoulders.

The true *ribs* may be broken in any part, the false only where they are knit to the spine; sometime they are only cleft or depress'd, known by inequality and noise; if inward, signs of a *Pleurisie*, they consolidate in 20 days. The inward cur'd by good ligature, and things against inflammation: unless in a Fever, full dyet is good, because it distends them. Shun Clamor, Motion, *Venus*, &c. whatever may cause cough, or sneezing. If the Fracture be outward, press in with your hand, after bind *f. a.*

The *Vertebrae's* are rarely broke, but bruised, Palsie, suppression of Urine, involuntary egestion, sometime death succeeds, chiefly if the *Cervix* be broken. Appease pain and tumor, then roborate, cut the flesh, and pull out the bone.

If *Os Coccyx* be broke, put the fore-finger of your left hand into *anus*, and reduce it with the other hand, apply fit plasters, &c. other Fractures in the joints may be cur'd, by observing what hath been said.

Of

Of Luxations, and first in general.

A Luxation is, when a bone is out of its proper place; 'tis either complete, when 'tis altogether out, call'd *exarthroma*, *luxatio*, or imperfect, when only distorted; call'd *pararthroma*, *subluxatio*, which happens never in the shoulder, or thigh. It may be inward, outward; before, behind; upward, downward; simple, compound. There is another kind of Luxation, when bones gape of themselves, as *scapula* from *humerus*, *radius* from *cubitus*, &c. Causes are strokes, falls, mucilaginous humors, as in *Ischion*, known by tumor in one part, cavity in the other; motion hurt, pain, shortness. Gaping is known by tumor of the head of the bones. The Article only lax'd, is quickly in and out. Luxation difficult, where strong ligaments, ample cavity, but more difficult to reduce; easier in soft, lean bodies, so the relapse oftener. Difficult to cure, if attended with bad symptoms, for no reducing till they be vanquish'd; so if old: worst, if the mouth of the cavities be broke.

The Cure consists in reduction and conservation of the Article, removing of Accidents, as in Fractures.

The *Jaw* is difficultly luxated, because of the

the strength of the muscles, and firm articulation, to which 'tis connected to the upper part, it happens only to the fore-part, not the hinder, because the bone hinders; not of the right side for the left, not of the left for the right head; caus'd from the wide opening the mouth, or weakness of the muscles; speech is mann'd, chewing abolish'd, spittle flows, mouth distorted; if only on one side, the teeth answer not their fellows, but the dog teeth are under the cutters; but if both jaws be luxated, the lower are longer than the upper, though they all answer one another. This is dangerous, unless it be quickly repos'd, because of fevers, distention of muscles; more when both than one, from inflammations, consent of the brain, vomiting of choler and flux. Reduce, by putting fingers, thumbs, wrapt about with linnen on the teeth, press them hard, and lift up his chin with the rest of your hand. If both out, go the same way, but let them be equally put back. Being repos'd, use astringents and fit ligature, divide the band at the chin, and about the ears, making one or more circumvolutions upon the *Vertex*.

The *Vertebrae* may be luxated, or subluxated, forward, backward, and side-ways; if next the head, the chin falls to the breast; so that he can neither speak, nor drink; 'tis deadly.

deadly. If above the *Septum* inwards, difficult breath, distention of Nerves, vomit, shaking of the hands, death follows; under the *Septum*, the Thigh's resolv'd, Urine suppress'd, sometime involuntary excretion. First extend, then reduce, by setting the Patient low, and one weighing heavy upon his shoulders, the Artist putting up, and moving the head too and fro till set: Mr. Hales, a famous Artist in *Northamptonshire*, cur'd one below the neck inwards, by taking the Patients hands about his neck, as if to be whipt, and giving a sudden jerk with his posteriors. If outwards, lay them on a Table, the face downward, bind them under the arm-pits and flanks with strong leather thongs, and make extension, and force in the bunch with your hand; or lay a Form upon it, and sit or tread upon, taking heed of the Process.

The *Clavicle* is never wholly luxated, not forward, for its firm adhesion to *os pectoris*, nor in the other head where it cleaves to the *Humerus*, doth it go out much, because hindered by the *cartilage*, *biceps* and *deltois muscles*. If the head of *Humerus* be luxated, 'tis sharper, the bone stands out, and with a hollow; 'tis reduc'd with the hands, and bound as in Fractures. Thus is the highest *Humerus* reduc'd, by forcing the Bone that is out downward.

The

The head of *Humerus* is inserted into the superficial *sinus* of *Scapula*, and involv'd by a lax ligament, and cannot be luxated on the outward, upward, inward, backward part; for divers defences, but only downward and forward, wanting defence there, rarely forward, for the resistance of *muscul. deltois*: so that *Hippocrates* never saw it, *Galen* but five times, yet the *humerus* and *femur* may be perfectly luxated from violent causes, known by common signs, and comparing. Divine *Hippocrates* lays down several ways of reposing.

1. New and tender, with hands only put under the arm-pits.

2. By the Servants shoulder put under the arm-pit, drawing his arm toward the belly.

3. By a Ball under the arm, thrust hard with the foot, drawing the arm downward.

4. By a Ball put under the arm pit, then a round Staff transversely put under, two Servants lifting it up, bringing down the arm.

5. By a Ladder, but the Staff may suffice; being restor'd, keep a Ball under with fit ligature and medicines, as in Fractures.

The *Elbow* sometime in part, sometime wholly luxated, before, behind; inward, outward; signs common: if not quickly reposs'd, bad symptoms follow from great nerves there. Extension must be oblique with

with hands, or bridle reins; then as in others.

Carpus, metacarpus, digiti, may be luxated every way, forward and backward; *carpus* out forward, the fingers cannot be bent, because of the compression of tendons; if inward, the hand is distorted in the opposite part. These are easily repos'd, by putting the hand upon a Table, upward, if out inward; downward, if backward; then extension made, repose them, with medicines and bands as before.

The *Thigh*, according to some, is luxated only three manner of ways, oft in the inward part, because the top of the *sinus* is less deep, and, as the *humerus*, is perfectly luxated; sometime in the outward, but by great force; seldom in the forward and backward, because the *cotyle* is very deep. If the Thigh be fallen into the inward part, one shank is longer than the other, a cavity appears from the outward part in the buttock; knee, foot, whole shank, bend outwardly; because the bending muscles are bound, yea, the head of the thigh nigh the *perineum*, is perceived to bunch; but if it be slipt in the outward part, the shank shorter, bunch outward, but within hollow, the shank cannot be mov'd, the heel touches not the ground. If in the forepart, the leg is extended, but the *inguen* cannot bend,

bend, Urine suppress'd. If in the back-part, *contra*. the leg bends not, is shorter, the heel touches not the ground, buttock, bunch, cavity, in *inguine*. 'Tis difficultly repos'd, and unless quick, the *sinus* fills and hardens. If inward, they turn their feet about in going like Cows, and lean upon the sound foot; if upon the hurt they fall, unless they use a Staff on the whole side : But if outward, they walk better, and use the affected leg. To reduce, extend with hand or band; the body lying upward or downward, use two bridle reins, one from the *inguen*, the other from the knee, the rest *f. a.*

The *Knee* may be luxated any way, except forward, for the opposite *Patella*; easily reduc'd. The *Patella* is by the hand reduc'd, by the Patients fixing his foot upon the ground.

The *Leg* is reduc'd easily by small extension, but difficultly confirm'd, because of many Bones compounding the Article. Strive not to go, before perfectly confirm'd. If *os calcis* be disjoin'd from *astragalus*. heavy symptoms succeed, from the greatness of nerves and tendons; 'tis easily repos'd, but must be long bound, because it sustains the whole body; in the sole of the foot and toes, as in the hand.

Thus have I laid down the Cure of Tu-
mores,

mors, Wounds, &c. with their Causes, Signs, Diagnostick and Prognostick, from the pure Fountain, or indeed main Ocean of *Hippocrates* and *Galen*, those greatest Luminaries of Physick; and from them thou hast, (as it were by a concatenation, or *series* of time,) the doctrine of the most learned and orthodox Writers to our times, *Grecians*, *Latines*, and *Arabians*; not being ignorant, that since *Paracelsus*, there have been too many that have too lightly esteemed, or altogether neglected the Ancients; but such I pity, with a learned man^r as feeding upon airy fancies, loathing the solid, wholsom viands of ancient wisdom, and dig to themselves Cisterns that will hold no water; like women and children, love new Wine, because pleasant to the taste; when wise men choose old, because wholsomer. They slight the dictates of the Ancients, because they misconstrue, or misunderstand them, not considering that we are but children in Understanding, to those Fathers of knowledge; Dwarfs and Pigmies, to those Gyants in wisdom, and without standing, as it were, upon their shoulders, shall not see so far as they. I am not against Emulation in any man, yet let it be with their supportation, for indeed without that it cannot; and let him take heed, lest he lose the substance, in catching at the shadow.

Of the

VENERAL DISEASE.

THis Disease hath obtain'd as many Names almost as Nations, with us 'tis commonly call'd the *French Pox* ; but to give no Affront to any Contryeman, I have call'd it *Lues Venerea*, or the Venereal Disease : And well I may, for undoubtedly its first rise was from impure Venery ; and so is of greater Antiquity than *Columbus's* return from the *Indies*, 1453. the siege of *Naples*, 1485, or the oldest computation can be found ; even as old as Whoring, which hath been almost from the first Age of the World. Upon which there is extant an elegant and lepid enigmatical *Hexasticon* of *Serranus* a Physician of *Lyons*, concerning the doubtful Origine of this Disease.

*India me novit ; jucunda Neapolis ornat ;
 Bætica concelebrat ; Gallia, mundus alit.
 Indi, Itali, Hispani, Galli, vosque orbis alumni
 Deprecor ergo, mihi dicite quæ Patria ?*

But not *ludere cum sanctis*, since this Disease, for the most part, breaks out in Ulcers, &c. in

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the obscene parts *anus*, and *penis*, with filthy scabs and itching; one may doubt, not without reason, whether this was not that old *Plaga Legis*, threatned to the disobeyers of the Law. God will smite thee with the Ulcer of *Egypt*, and that part by which the dungs are ejected, with the scab also and itch, &c. a little after he adds the worst and perpetual infirmity, for this is the scourge of Whoring, and is perpetuated in some with Pains, and worst of Ulcers. And why may not *Marital* mean this Disease, in that Epigram?

Cum dixi ficus, rides, quasi barbara verba,

Et dici ficos Cæciliane jubes :

Dicemus ficus quas scimus in arbore nasci ;

Dicemus ficus Cæciliane tuas.

Fracaſtorius calls it, in deriſion, *Siphylis*, para to ſinein phula, & perappoſite, ſays *Laurentius*, *Notatione vocabuli a ſcropha & amore deſumpta quam vulgus publica proſtitibula hoc nomine appellet ;* others *Pudendagra*, in imitation of *Pliny's Mentagra*.

But to paſs by what may not be of ſo much uſe to the Artiſt, I ſhall betake my ſelf to its Signs Diagnostic, Prognostic, and Cure, with its Symptoms, Precedent, Concomitant, and Subſequent.

'Tis known by *Gonorrhæa*, i. e. flowing of a hot, virulent humor, not ſeed, from the
reins

reins, or an inflamed Ulcer of the prostrate glandules, whence proceed varicolor'd *Sanies*, white, green, bloody, &c. which supprest, or ill cur'd, turns to the *Lues*. *Bubo's* which if well suppurated and cur'd, may prevent a farther danger; but if they go inward, promote it. Then follow in the face, pustules, &c. pain, not in the junctures, but middle of the limbs, which afflict more by night than day; humors having then not time to fix, but in motion and dissipation: Ulcers of the privy parts, mouth, nose, &c. pains in the head, nodes in the bones, and tumors like *Atheroma*, Ulcers in *Vunula*, and many more symptoms, which appear not always: as a small Fever, Warts in the obscene parts, diurnal pains of the shoulders, legs, membranes, from sharp humors, which are follow'd by tophi, carious bones, &c. at last death, from an hectic Fever, or Cachexy, though Dr. *Whitaker* says it kills none.

Easier cur'd in the Beginning and Spring, than Winter; or when inveterate, and in a cacochymic body, and hath corrupted the solid parts.

Let the Cure be heating and drying, so that fasting is very requisite, as much as the nature of your Patient will bear; for *impura corpora quantum nutris tantum ledis*; shun gross, melancholy meats: Fish, Milk-meats; but Par-

tridg, Feasants, Chickens, Mutton roasted ; Almonds, and Raisins ; Filbirds, and other dryed Fruit. Drink sparing, and not strong. If accustomed to wine, or strong drink, put a little water, or small beer to it. Too much sleep hurtful, especially at noon, unless he slept not by night. Strong exercise good, but *Venus*, Sadness, Fear, wholly forbidden. Belly to be kept loose ; yet you must have regard to the strength and nature of the Patient, time of the Disease, &c. for one sort of dyet is for phlegmatick, another for melancholick persons ; thin in the beginning. But first of all you are to prepare the body by general remedies, as Phlebotomy, Purging, &c. if Bubo's hinder not, cupping with scarification, leeches to the hæmorrhoids. Then proceed to administer antivenereal Antidotēs, which may expunge the Poyson, by Sweat, Spittle, &c. the chief whereof is *Guajacum*, which prudently order'd, agrees with all ages, times, persons, *Sassafras*, *Salsapilla*, *China*, some use the two last to weak, hot bodies, the other to strong and cold. Thus prepar'd :

Rx. *Ligni sancti*, (*Guajac.* so call'd, for its miraculous effects, it seems, in *Greek Hagiopylon.*) ℥ iv. *cortic. ejusd.* ℥ ii. infuse them all night, or 24 hours, in Rain, River, or Spring water, ℔ xvi. close cover'd over hot coals,
boil

boil them gently to the absumption of half ; adding at the latter end, a few Raisins of the Sun, if you will, and Liquirice, red Sanders raspt, and Cinamon, to dulcorate, colour, and aromatize. Let the Patient take four, six, or eight ounces of this in the morning fasting, and at four or five of the clock in the afternoon, sweating either in a Hot-house, or in Bed, or Chair. The ingredients for the first decoction, are to be boil'd again, for his ordinary drink, to which you may add fresh wood \mathfrak{z} ii. infuse them in lb xii. of water, all night, and boil them to the absumption of the 4th part : so according to the nature of your Patient, you are to order your decoction ; or you may add to the first *Salsa*, \mathfrak{z} ii, or iv. *Saffras*, and *Chind*, an. \mathfrak{z} ii. some add White-wine, third or fourth part to the water ; some purgers, as *senna*, *agarc.* *hermodact.* *Jalap.* *mechoac.* *polypod.* *epithym.* *tu peth.* &c. others add *lig. bux.* *eben.* *juniper*, &c. and such *farragines simplicium*, as Mr. *Wiseman* from Sir *Theodore de Mayern*, which are wholly superfluous ; some put *Guajac.* &c. in a bag, with purgers to new Ale, and so drink one point, or half, or \mathfrak{z} iv. every morning, and five in the afternoon.

Now for those that lead sedentary lives, and are full of obstructions, some give this Electuary, after Generals premis'd.

Rx. Conf. Lujula, Berber. an \mathfrak{z} iii. coral. rub. prepar. \mathfrak{z} ii. ocul. canceror. sal. chalib. tartar. vitriolat. an. \mathfrak{z} iß. succini \mathfrak{z} ii. cum s. q. syr. coral. F. Elect. Dose, quantity of a nutmeg fasting every morning, and at four or five in the afternoon, exercising after it; purging every three or four days with this Position. Rx. Vin. alb. \mathfrak{z} iii. syr. rosar. solut. \mathfrak{z} iß. ad \mathfrak{z} ii. lac. sulph. \mathfrak{z} ii. and sweating once or twice a week.

Those that are afraid to lose the palate, or bridge of the nose, they keep sweating in the Low-Countries, in Bed, five days or a week, drinking or eating nothing but hot posset-drink, now and then a draught.

Such persons as are effeminate, and of weak constitutions, may take a spoonful of this Balsam in every draught of Beer or Ale he drinks, for a month together.

Rx. Sarfa. \mathfrak{z} iß. chine. \mathfrak{z} i. spilt and cut, and bruised into \mathfrak{z} viii. of spirit of Wine, put in a Glass close stoppt with cork and bladder, so long till the spirit be of a golden color, then strein it, and add to the liquor Gum Guajac. Pulver. \mathfrak{z} i. natural Balsam \mathfrak{z} i. stop close and shake the Glass once or twice a day, till the Gum be dissolv'd, purge every 3d day.

If the Disease be new, some Rx. Vin. alb. \mathfrak{z} iii. theriac. Audromach. \mathfrak{z} ii. balsam. sulph. gr. vii. F. potio. fasting three hours after. Some use

use the Balsam alone : For extreme nocturnal pains, and pushings, or swellings, some give ten grains of this mass every night going to Bed, for 40. nights, compos'd to a moderate sweat, drinking nothing all the while but *aq. font.* 'tis this : *Rx Gum. Guajac. 3 ii. Antim. Diaphoret. Ol. Sulph. Diacryd. Cran. Human. Caleinat. an, 3 i. Opii. Thebaic. 3ß. Croc. Angelic. 3 i. Succ. Chamomel. q. s. F. mass. s. a.*

If all this prevail not, you must come to the Hydrargyrial Cure, either inwardly or outwardly ; inwardly, either crude or prepar'd, as they call it : Crude, 'tis given with *Extract. Rudii. Pil. ex duob. or coch. min. adding 3 i. of mercury, extinct with terebinth, suc. limon, salviae, saliva hominis jejun. to 3 i. of the Pills, making them up with col. amygdal. dulc.* some add *gum. guajac. 3 i. dose to 3 i. to be continued, or intermitted, till the Cure be perfect.* These they call *Pill. Barbarossæ* or *Ceruleæ* : The dyet of *Guajac, Salsa, China, Sassafras,* as before. The prepar'd, is *mero dulcis precipitat, turbith, mineral. &c. adding 10, 12, 15, 20 grains of the Pouders, to 3 i. of the purging Pills as before, dose the same.* But outwardly, your *Ung. Neapolitanum* is best, to procure salivation ; which to do, universal premis'd as before : You must keep your Patient in a hot Room, close by the fire,

and anoint the soles of his feet, legs, hams, going no higher, then the palms of their hands, wrists, and bending of the elbow; do this once a day, till salivation be rais'd; wrapping him in hot linnen, put him to Bed, there let him sweat; in some a flux of the belly, not at mouth succeeds; then tumors resolve, ulcers dry up, and pains abate: to the mouth you may use gargarisms of *bord. fl. plantag. equiset. violar. cynogloss. &c.* with *alum. syr. diamor. mel rosar. &c.* if the flux of belly be too great, give the *discoct. guajac. with white-wine*; or remedies against fluxes, if of the mouth, Clysters and Purgers.

Now for the Symptoms, and 1. *Gonorrhæa*, 'tis cur'd by Phlebotomy first, è *malleolo*, cooling dyet, and altering, emulsions, apozems, &c. *in principio*, &c.

Rx. Medul. cassiæ, elect. lenit. an. ʒiʒ. dissolved in *in aq. bord. emulsion*, or *whey*, or taken alone: after you may add *rheum, senna*, with *terebinth*, and *crem. tartar*, towards the state or declination, and not in the beginning, as *Bunworth* and others do; for by reason of the grand quantity of fixt salt it contains, as the Chymists speak, it renders the Urine more hot and sharp: as for *chrystal mineral*, it may be given in a virulent one in the beginning in *aq. chicory*, in the declination in *aq. plantag.* then if it be virulent, *Rx. salsæ, chinæ, an. ʒiʒ. salviæ.*

salviae. M. i. sennæ ʒ i. sem. coriand. preparat. ʒ iii. boil them in *vin. alb. & aq. font. an. ʒ iii. ad dimidii absumptionem*; while 'tis hot, add *rhei ʒ ii.* sliced, and let it infuse all night with the rest; in the morning strain it, and add to the liquor *syr. de cichor. cum rhaharb. ʒ iv. dos. cochlear. xii.* fasting, as long as it lasts. Then Rx. *Elect. lenit. ʒ iii. medul. cassiæ. in aq. rosar. extract. terebinth. venet. in aq. plantag. parum lot.* (for the more 'tis wash'd, the less it deterges, so not fit here, as in a fresh one) *an. ʒ iʒ. rhei. pul. ʒ ii. misce, dos. quantity of a walnut fasting, and as much at four a clock after noon.* Or Rx. *Guajac, ʒ iv. senna ʒ ii. sem. anis. liquirit. an. ʒ i. lig. nephritic. ʒ ʒ.* boil them in *aq. font. ad dimidii absumpt.* then add *agaric. ʒ iii.* let them stand all night, in the morning strain it, and add to the strain'd liquor *syr. rosar. solut. ʒ iv. dos. ʒ v.* fasting; then Rx. *aq. plantag. vin. alb. an. ʒ iii. terebinth. venet. in aq. ros. lot. ʒ ʒ vitel ovi.* for one dose, mix the *terebinth* and *vitel.* in a mortar first then add the liquor. Or Rx. *Infus. croc. metall. ʒ i. oxymel. simp. ʒ ii.* fasting, *cum regimine*: then you may give *extract. rudii. ʒ i. mer. dulc.* often sublimated, call'd *calomelos, xii, xv, or xx gr. F. Pil. No iii. circiter,* for one dose: then he may take this, Rx. *rad. chinae, sarsæ, fol. sennæ, rad. Nymphaeæ, an. ʒ i. uvæ passæ enucleat. ʒ iv. sem. carui, cinnam. an. ʒ iit.*

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boil

boil them *s.a.* in a Pipkin, till half be wasted, strain and dulcorate with common *treacle*, \mathfrak{z} vi. *dos.* \mathfrak{z} iv. fasting, for several days; going to Bed, take every night five large Pills of *terebinth. cypr.*

You may all this while, if need be, inject into the Yard *decoct. tormentil. virgæ aureæ, pilosel. &c.* dissolving \mathfrak{z} i. of *sacchar. saturn.* or in inveterate Ulcers first, *collyrium Lanfranci*, much approved by many, 'tis thus made:

Rx. Vin. alb. lb. i. aq. plantag. rosar. an. \mathfrak{z} iv. auripigment. \mathfrak{z} ii. virid. æris \mathfrak{z} i. aloes, myrrhe, an. \mathfrak{z} ii. terantur subtilissime, & F. collyrium. If it be too sharp, you may add *trochisf. alb.*

Some, when all fails, give from five grains to ten, of green *precipitate* inwardly. - *Renaudus*, a famous *Parisian* Physician, gives you a sovereign water for a *Gonorrhæa*, which dulcifies the sharp, sordid humors, either in the reins, or other passages, urinal, or seminal; thus made:

Rx. Fol. acanth. lapath. hortens. concis. summat. altheæ. an. M. ii. flor. nenuph. M. iii sem. lin. fenel. an. \mathfrak{z} iß. sem. 4 frig. maj. an. \mathfrak{z} i. macerentur per diem in lacte asin. aut vaccin. postea distillantur in Balneo. You may take this alone, or dissolve \mathfrak{z} i. or ii. of *trochisf. Gordon, de spodio. or alkekeng. in \mathfrak{z} iii. or iv. of this water.* You will find likewise that your *syr. de althea, coral,*

ral. mucilag. myrtil. de 5 radic. raphan. de symphito, &c. will be of good use towaad the declension; not in the beginning, because fugar is of a hot, sharp, cholerick nature.

Quercetan's water is this : *Rx. Rad. Irid. florent. fol. diptam. cret, menth. sic. an. 3 i. sem. agni cast. rut. lactuc. an 3 vi. terebinth. venet. 3 iv. vin. alb. 3 xx.* Bruise what is to be bruised, put all into an Alembic, distil in *M. B. dos. cochlear. ii.* fasting.

In an inveterate *Gonorrhœa*, *Palmarius*, a *Parisian* Physician, and *Mercatus*, give *iii.* or *iv. 3.* of this following *Lixivium* fasting.

Rx. Cinerum siliquar. fabar. an. 3 i. aq. parietar. tepent. lb i. macerate them for four hours, then strain or filtre it, to which add *syr. alibæ 3 iv.* he says that you may give it in a new one, with *aq plantan.* for *aq parietar,* & *syr. violar. aut limon.* instead of *alib.* to which you may add a little *aq. ros.* If this avail not, he says you may use these following Pills, from the same.

Rx. Aloes. rosat. cretæ. succin. rad. gentian. aristoloch rotund. rad. dictam. myrrh. an. 3 i. mischridat. 3 iß. terebinth. venet. 3 i. cum syr. de alth. q. s. F. Mass. dos. 3 ß. every other day fasting; which, they say, will vanquish the most stubborn *Gonorrhœa*, taking heed you be not impos'd upon by an Ulcer of the bladder, then you must advise with the learned Physician.

For

For other Symptoms, as *Bubo's*, *Caruncles*, *Nodes*, &c. thou hast enough before, if thou art ingenious.

Now if a Child be offer'd thee to cure, infected with the venereal disease, thou art to consider whether it suck, or not; if it do, the Nurse is to be concerned, who must be free her self. If the Child have any Ulcers, or Pustules in the mouth, see to cure them, first with decoctions, and other medicines, as thou hast light enough. Then let the Nurse be dyeted, as if she were infected, only she must eat boild meat, to afford milk for the Child, which else might be dried up by the dyet; premitting universals, making the Child some pap of the decoction of *Guajac. salsa.* and *china*, &c. with *sugar*, or *syrup of caryophil.* &c. or boil *lig. guajac. china, salsa,* &c. with Chickens, in *aq. fluvial. aut font.* with *fol. borag. bugloss. chicor. endiv.* &c. till half be wasted, then distill the rest, and give the Child thereof with sugar. This way may be very good for People of full age, (with Veal, if need be) that have a lent, hectic Fever, or give it *aq. theriac. or cordial. frig. Saxon*, with some sugar, as before.

If the Child suck not, give it of the common decoction, first opening a vein, purging it with a little *senna*, and *syr. de cichor. cum rbeo*, or infuse *senna* and *rheum*, in some
white-

white-wine Posset-drink ; or *syr. rosar. solut. cum fenna* ; dose according to your Patients nature : or give these, with the decoction afterwards, or infuse some purging simples therein.

Thus have I faithfully laid down the genuine way of curing this *protean* disease, which, (as the learned *Fracastorius* well observes) is of very antique date, and hath its rising and setting, appears and disappears for a long time ; whereupon after such intermission it hath, at its first coming, been accounted new. By which way, if thou art ingenious, thou may'st vanquish it in any of its apparitions ; and that Galenically, which you will find the safest : for I do not account fluxing with *Ἰ. i. gr. xxv. of turbit, mineral. merc. dul. præcipitat, &c.* given for several mornings, till flux be rais'd, to be a Chymical Cure, as some imagine ; and therefore abstain from all manner of preparations of *Mercury* ; whereas Chymistry, as they call it, (which is nothing but a certain manner of preparing Medicines) was invented and used, long before him they call the Author, *Paracelsus*, by Dogmatical, Galenical Physicians, as *Lullius, Villanovanus*, and others, as the learned *Primrose* shews in his *Vulgar Errors*. Nay, *Fernelius*, the Prince of Modern *Galenists*, was a great Proficient, in this Art ; so was *Matbiolus, Erasius, Crato*,
Phy-

Physician to three Emperors, all great *Galenists*. Nay, *Riolan*, when he had (by the Command of the Colledge of Physicians at *Paris*, who are the strictest observers of *Hippocrates* and *Galen* in the World) overthrow the *Paracelsian* Machins, adds, that that School (which contain'd the most excellent Physicians of *Europe*,) left every one free to use Chymical Medicines, provided the ancient method of Curing, according to the Precepts of *Hippocrates* and *Galen*, remain inviolable: and in their *Pharmacopœa* 1638. set down a preparation of *croc. metall.* and *mere. dulc.*

Now as for crude *Mercury*, many *Galenists* have been afraid to use it; but the several Testimonies of great Physicians, evince that it may be given safe, and crude the best; nay, in some Cases, there is no Cure to be perform'd without it, chiefly in *Uñction*.

Dioscorides says, it hurts only by weight.

Avicen, Prince of the *Arabian* Physicians, says it hurts not, because it evacuates it self by the belly.

Rorarius, says he knew a *German* in a Goldsmiths house, who after being drunk wak'd, and being dry, in the dark, took a 3 lb. Pot of quick-silver, thinking it water, drank it off, and went to Bed; rising in the morning, and feeling his sheets moist, found 'twas quick-silver; the same affirms that he
knew

knew divers Women take it, to procure easie delivery, and bring forth the secundine, without danger. Moreover, he affirms, as others, that it kills only by its weight; and that he hath not only heard, but seen it given safely by Women and Physicians, to Children half dead with the Worms, and Women in difficult labour, &c.

Brassavolus, a famous Physician *in examin. simplic.* says he hath given $\mathfrak{z}i.$ to Children; if to Children, then Men, &c.

Amatus Lusitanus, calls those ignorant in Physick, that dispraise it, for reasons with *Dioscorides*, and that it was prescrib'd by the *Spanish* Physicians, (and they are very cautious) with very good success, and without any ill symptom, to Boys infected with the Worms, he adds bewicht; and tells a Story of a Boy of 10 years of age, that drank above $\mathfrak{ss}i.$ of Quick-silver, instead of Wine, who perceived no ill symptom but weight, and by Clysters voided it, without any harm.

Mathiolus also, a famous Physician, is of the same opinion, and confirms all, and tells you *Epist. ad Laur.* If it be extinct, it sticks to the stomach and intestines, and causes cruel symptoms: And indeed by the various preparations, its nature is but hid, not taken away; neither is any preparation so safe as crude: for if crude added to sublimate, they'll confess,
takes

takes away its venom, and makes it harmless, much more is it safe in it self: For, *Nil dat quod non habet*; and if it imparts sweetness and pleasantness to a most dangerous poyson, it must, without doubt, contain such in it self; *Nam propter quod unumquodque est tale*, as the Philosophers say, *illud est magis tale*. So that 'tis only to be observ'd, that it be not given in too great weight, or that there be no bad humors in the body; and that it is fitter for phlegmatic, than cholerick, or melancholic constitutions: nor is it therefore to be rejected, for so you may reject any Medicine.

Laurentius, a most famous Physician, and Chancellor of the famous University of *Montpelier*, in the Cure of this disease, says, we must of necessity have recourse to mercurial remedies, when the others cannot prevail.

Rondeletius, another famous Physician, and Chancellor of the same University, in his Cure of this Evil, speaks Wonders of *Mercury*, and deciphers the properties it hath against it, in what manner soever administered.

I shall conclude with the testimony of *Hartman*, a most expert Chymist, who taught several preparations of *Mercury*; yet, treating of the Cure of the Worms, the most excellent, says he, is *Mercury crude*, taken by it self,

self, from 3 i. to some ounces ; or first mortified in *succ. limon.* but in a lesser dose, for then it tarries longer in the body.

And here I must not omit to take notice of your **Doctors of the Post** in London, that pretend to Cure all People easily, though it be most inveterate, and in the space of 2, 3, or 4 weeks, or such a time, without observing any order of dyet, &c. so that their nearest Relation shall not take notice. But I would not have the honest Artift to make any such promise, and all others to beware of such Impositors ; for though the Cure hath been, and is too much neglected by Physicians, and so vulgarly is believ'd to belong to the Chyrurgion, yet it is their work, and requires a great deal of industry, and none but the ingenious and skilful Chyrurgions are able to perform it, as the learned *Primrose* hath observ'd in his *Vulgar Errors* ; for it must be a light disease that can be cur'd, after such a slight manner, as they pretend.

Lastly, I cannot but take notice of the disingenious dealing of the *Chymists* with the *Galenists*, about the Cure of this disease, and not only in this, but all other ; one for instance may serve for all, for *Ex pede Hercules, & similes habent labra lactucas*, and that is one *Dr. Manwayring*, that calls his Book, *The History, &c. of the Venereal Lues, &c.* wherein he
tells

tells you, he gives you the Cure from the *German, Italian, Spanisb, French Galenists*, and there names them: But I must tell you, they are almost all the very meanest he could pick out; omitting the Cure from the most famous: as from the *Italians*, the two most famous that ever wrote of it of that Countrey, viz. *Fallopins* and *Cappivaccius*, whom our famous Dr. *Read* layes down, to serve for patterns of all that ever wrote; of *Mercurials*, Prince of the *Italian Physicians*, not a word. Then for the *Germans*, he lays down the way of Cure used by two or three obscure Physicians, but not one word from the famous *Senertus*, that *Galenus Germanicus*, nor any other of Note. For the *Spaniards* indeed, he gives us only one of Note, and that is the great *Mercatus*; a better method than whose, to cure this disease, I doubt he, nor any other Chymist, hath not any; nor for any other disease than this learned man hath left in his Voluminous Works.

Then for the *French*, he begins with *Rondeletius*, whose method is none of the best, only he approves *Mercury*, as before. For *Quercetan*, enough of him before; neither do I take him for a *Galenist*. But not one word from the great *Fernelius*, the *Galenus Gallicus*, who hath wrote a most excellent Treatise of this disease, and I forbid all the Chymists

mists to shew such another; nor a word of his Scholar *Palmarius*, who hath done a great deal better, and more learnedly than *Quorce-tan*. One point of his candor and ingenuity towards *Galenists*, I must not omit, wherein he shews how little he is conversant, or his ignorance in the *Galenical Pharmacopœa's*, whom he pretends to correct; for in Transcribing a *Recipe* from one *Benedictus*, for the Cure of this disease, when he comes at the word *Geneliabin*; though he hath falsly Transcrib'd it, or by fault in Printing, he calls it *Geneneliabin*; he says, which word I know not what to make of: but if he had but read two of their modern famous *Pharmacopœan* Doctors, viz. *Bauderon*, and *Renodeus*; he might have seen what eo have made of it, namely, that which the *Greeks* call'd *Rhodomel*. and the *Latines mel. rosat.* the *Arabs*, call'd by that name, only *Renon*, will have it *Gelenihabin*, with the learned Monks in their Censure upon *Mesues's* Antidotary, who tells you that the word is in *Avicen*, 5th Canon, and *Haly, filii Abbas, cap. de conditiis & alibi*, and says, 'tls call'd *muraba* also, and *challengebinum*: and makes a long Story about it, which here to recite, would not be fit. And in several places of this Book, the Doctor derides the manner of writing of those ancient Physiclans, when they are often
falsly

falsly transcrib'd, or misprinte'd. But to conclude his Book, when he hath given you, as he would make you believe, the best way, the *Galenists*, (whose repute is such, he says, that most Physicians, their Successors, do follow, as their Guides, in Curing: though (as I told you) he is mightily out) have to cure this disease: Then he inveighs against the incongruous Compositions, and Pedantic *Recipe's*, as he calls them, upon the Files; and tells you, the cause of all this, is the Physicians very imprudently, and perniciously casting off their proper charge and main duty in preparation and improvement of medicines by their own hands, and diligent inspection over all that appertains to that work; the neglect whereof hath made them incapable, to see and correct the gross Errors of Traditional Book Medicines; and then gives you an example of one *Bolnest*, that hath made an improvement with success, by being his own Operator; but because *Bolnest* hath been already learnedly handled by Dr. *Twisden*, I shall wave him, and come to our Doctor, and must tell him, he is much mistaken here too; for there are *Galenists* that are not so negligent, or so much altogether governed by Tradition, but that they have made an improvement and refinement of both *Galenical* and *Chymical Pharmacopœas*, witness *Zwelfer*, *Pharmacopœa*
Ant-

Antwerpiensis, le *Febure*, which he had from two famous *Parisian Doctors* ; our *London*, by the Learned Sir *George Ent*, and last of all Monsieur *Aquin's*, set forth by *Charas*, but by his command and approbation ; so that if you, or your Brethren, have any better, you are very much too blame, and very bad Commonwealths men, if you do not impart them, and blest the world with them, as they have done, but keep them secret ; or at least make the world believe you are blest with secrets and better medicines, which none but the *Adepti*, or rather your *Inepti*, are worthy to partake of, or can attain to ; whereas the Orthodox conscientious *Galenist*, imparts all to the world, knowing that *bonum est diffusivum* ; & *quo communius èd melius* ; that it is the experience of the goodness of Medicines that hath made them common ; and that Physician that well understands *morbum, method. medendi, materiam medicam*, & *componendi rationem*, I'll assure you shall need none of your Secrets. 'Tis related of *Cappavaccius*, a great *Paduan* Professor of Physic, who, when desired of the *German* Students, that he would communicate his Secrets to them, answered, Read my Practice, and you'll find my Secrets ; in which Book there are no Secrets, or *Arcana*. Now all Secrets are simple, or compound, and if any one shall find out the faculty of a simple medicine

dicine not yet known, such an increase to the Art is worthy praise, and may be call'd a Secret ; as he that first found out the vomitive nature of Antimony, and the efficacy and composition of Gun-powder, and that first brought Jalap, &c. into use, had worthy Secrets, Now if their Secrets be such, they deserve to be esteemed, neither are any other things to be admitted ; so for those *Recipe's*, which are compounded of the ordinary *materia medica*, as there are very many, they are not to be accounted Secrets, though a Physician keeps them to himself, and would not have them known ; for every learned and skilful Physician, may invent and frame such to himself as occasion offers, and he pleases, *ad infinitum*. So that it hath been an unhappy custom, which some ignorant Physicians *verbatim*, to transcribe Medicines out of Books, and these to keep secret, lest if other learned Physicians should see them, they might make them laugh ; hence comes it to pass, that many here in *England* are deceived, in getting Secrets from such, which had none ; and if they be good, yet such, or the same, may be invented out of the *materia medica*, diversly compounded ; as from letters put diversly together, divers words are framed. The learned *Primrose* tells a Story of one, chat had a description of a certain Purge, which, he
said,

said, a very learned Phyfician now dead, gave him, which when he faw, could not forbear laughing at the foolery of the compofition; yet he would make it up for his Wife, but he perfwaded him to give it to the Apothecary to make up, and to give only the third part, with which fhe was fufficiently purged: The like of fuch idle *Recipe's*, I could produce divers examples, too long here to recite; fo that thou feef by this time, 'tis not the orthodox learned *Galenift* that impofes upon the world, but fuch as *Thomfon*, *Marchemont Nedham*, and too many fuch, as contradict *Hippocrates* and *Galen*, becaufe they are not fo well read in the true, found, and ancient peripatetic Philofophy, as to underftand them; for *ubi definit phyficus, ibi incipit medicus*, the better Philofopher, the better Phyfician; and 'tis from fuch ignorant perfons, that as Dr. *Manwyring* fays, If an account could be taken of the dead, we find more have dyed by Medicine, than the Sword; but, as he fays, *Populus vult decipi*, they love the impofture, they will not be informed; fo *decipiat*, let it go on, they are his own words. Now wholly to conclude, affure thy felf, That the beft *Galenifts*, are the beft *Chymifts*. But whether it be fo proper for the Phyfician to make up his own Medicines, or no, is a queftion too long for this place.

The

The Manner how to make Reports.

FOrasmuch as upon divers occasions, the Artist may be called to deliver his opinion, either of the death of any Person, or of the weakness and depravation of any member, in the Function, or execution of its proper office and duty, to a Magistrate or Coroner's Inquest; I have taken out of *Ambrosius Pareus*, and others, these following Rules.

Let the Artist be careful in searching Wounds brought to him, and let the Patient be placed in the same posture he was in when he received the hurt; otherwise a Wound may seem by the Probe to be small, when indeed it is mortal. If he be doubtful, let him suspend his judgment from the first day to the ninth, by which time the symptoms will manifest the condition of the Wound.

The general Signs whereby we judge of diseases, are diagnostic, prognostic, or amnestick, and they are taken, 1. From the nature and essence of a disease. 2. From the three sorts of Symptoms; which are,

1. Action hurt, and that may be either demolish'd, diminish'd, or depraved. 2. From the Excrements, which offend either in substance, quality, quantity, mannner or time.

3. From

3. From the quality chang'd, of touch, smell, color, &c. which depend on the diseases and symptoms.

4. From the cause.

5. From the disposition of the body.

6. From things helping and hurting.

7. From similitude and dissimilitude, where are to be compar'd evils universally raging, as Plague, &c. of all which thou hast an account before.

If a Nurse, through drowsiness, or negligence, lie upon her Infant in Bed with her, and so stifle it to death; if the Infant were in good health before, were not forward nor crying; if his mouth and nostrils now dead, be moistned with a certain foam or froth; if his face be of a violet colour; if when the body is opened, the lungs be found swoln and puffed, and all the other intrals sound; it is a token that the Infant was stifled by some outward violence.

If the Body or dead Corps of a Man be found lying in the Field, or House alone, and it be questioned whether he were slain by lightning, or some other violent death, these signs following will shew the certainty thereof.

For every Body that is blasted, or stricken with lightning, doth cast forth an unwholsom or sulphurous smell, so that the Birds, or

O

Fowls

Fowls of the Air, nor Dogs will not touch it, much less feed on it; the part that was stricken oftentimes found, and without any wound; but if you search it, you shall find the bones to be bruised, or shivered in pieces.

But if the Lightning hath pierced the Body, making a wound, (according to the judgment of *Pliny*) the wounded part is far colder than the rest of the Body. For Lightning driveth the most thin and fiery Air before it, and striketh it into the Body, by which force the heat that was in the part is soon dispers'd, and consum'd. Lightning doth always leave some sign of Fire, for no Lightning is without Fire.

Moreover, whereas all other living Creatures, when they are stricken with Lightning, fall on the contrary side, only Man falleth on the affected side, if he be not turned with violence toward the Coast or Region from whence he came,

If a Man be stricken with lightning while he is asleep, he will be found with eyes open; contrariwise, if he be stricken while awake, (as *Pliny* writes.)

Also it may be inquired, whether any that is dead by a wound, receiv'd it a live or dead? Truly the wounds that are made on a living man, if he dye of them, after his death will appear

appear red and bloody, with the sides or edges swoln, or pale round about : contrariwise, those that are made in a dead man ; for all the faculties and functions of life in the Body do cease, and fall together by death, so that thenceforth no spirits nor blood can be sent, or flow unto the wounded place.

The like question may be when a man is found hang'd, whether he were hang'd dead or alive ? If he were hang'd alive, the impression or print of the Rope will appear red, pale, or black, and the skin round about it will be contracted or wrinkled, by reason of the compression which the Cord hath made ; also oftentimes the head of the *Aspera Arteria* is rent and torn, and the second spondile of the neck luxated, or moved out of its place ; also the legs and arms will be pale, by reason of the violent and sudden suffocation of the spirits : moreover, there will be a foam about his mouth, and a foamy and filthy matter hanging out at his nostrils, being sent thither, both by reason that the lungs are suddenly heated and suffocated, as also by the convulsive concussion of the brain, like as it were in the Falling-sickness : contrariwise, if he be hanging dead, none of these signs appear.

Whosoever is found dead in the waters, his belly, that was thrown in alive, will be swol'n and puffed up, by reason of the water that is

contain'd therein; certain clammy excrements come out at his mouth and nostrils, the ends of his fingers will be worn and excoriated, because he dyed striving and scraping in the bottom of the River, seeking somewhat whereon to take hold to save himself from drowning. If he be thrown into the waters, being dead before, these Signs appear not.

But as concerning the Bodies of those that are drown'd, those that swim on the upper part of the water, being swol'n or puffed up, are not so by reason of the water that is contain'd in the belly, but by means of a certain vapor, into which a great portion of the humors of the body are converted, by the efficacy of the putrifying heat. Therefore this swelling appears not in all men which perish, or are cast into the waters, but in them which are corrupted with the filthiness, muddiness of the water, a long time after they were drown'd, and cast on shore.

Many are suffocated by burning Charcoals in a close Room, and sometimes recovered, if taken in time, else quite smother'd. These you shall perceive their faces wan and pale, no pulse beating, all the extream parts cold, speech and motion cease, so that there is little hopes of recovery, only as thus, put your hand to the region of the heart, and if you find any heat and pulsation, then there is life remaining,

maining, else not; therefore if any person's found dead in a close Room, you shall inquire whether there were any Charcoals burnt there, or observe whether the walls be new white lim'd, and the cause of their deaths will appear.

You shall know that a Person is poyson'd, when as he complains of a great heaviness of his whole Body, so that he is weary of himself; when as some horrid and loathsome taste sweats out from the orifice of the stomach to the mouth and tongue, wholly different from that taste that meat, howsoever corrupted, can send up; when as the colour of the face changeth suddenly, sometimes to yellow, or any other colour, much differing from the common custom of man; when nauseousness, with frequent vomiting, troubleth the Patient, and that he is molested with so great unquietness, that all things may seem to be turn'd upside down, when the Patient swoons often, and with cold sweats.

Those Poysons which are hot, cause a burning in the tongue, mouth, throat, stomach, guts, and all the inner parts, with unquietness, and perpetual sweats; but if they be accompanied with a corroding and putrifying quality, as *Arsnick*, *Sublimate*, *Rosealger*, or *Rats-bane*, *Verdigrease*, *Orpiment*, &c. they cause in the stomach and guts intolerable

pricking pain, rumblings in the belly, and continual and intolerable thirst, These are succeeded by vomitings, with sweats, sometimes hot, sometimes cold, with swoonings, whence sudden death ensues.

Poysons that kill by cold, induce a heavy sleep, or drowfiness, from which you cannot easily rouse them; sometimes they so trouble the brain, that the Patients perform many undecent gestures, with their mouths and eyes, arms and legs, like such as are frantick; they are troubled with cold sweats, their faces are blackish or yellowish, always ghastly, all their body is benum'd, and they die in a short time, unless they be helped: Poysons of this kind, are *Hemlock*, *Poppy*, *Night-shade*, *Henbane*, *Mandrake*, &c.

Poysons that are moist, induce a perpetual sleep, flux, resolution of all the nerves and joints, so that not so much as their eyes may be stedfast contained in their orbs, but will hang as ready to fall out; the extreme parts, as the hands, feet, nose, ears, putrifie, then death is at hand; of this kind are the bitings of *Serpents*, the *venenate* and *putrifying humidity* of the *Air*, &c.

Being to make report of a Child kill'd with the Mother, have a care that you make a discreet report, whether the child were perfect in all the parts and members thereof, that
the

the Judge may equally punish the Author thereof.

The way of making Reports, is this:

I A. B. Chyrurgion of London, being called this 10th of August instant, to visit T. W. I found him in his Bed, wounded on his head on the left temple, piercing the bone with a fracture, and depression of the bone into the meninges and substance of the brain, by means whereof his pulse was weak, he was troubled with raving, convulsion, cold sweat, and his appetite was dejected, whereby may be gathered, that certain and speedy death is at hand.

In Witness whereof, I have hereunto
set my Hand.

This, if thou art ingenious, may be a pattern of all, only looking back to what hath been said before, of the Signs, Causes, and Symptoms of Diseases.

Of Bleeding at the Nose.

BEcause many places are stuff'd with a sort of Quacks that profess themselves Physicians, and take to themselves the

Title of Doctors, who, when they come to a Patient, cannot discover their grief, unless it be apparent to their eyes, much less cure it; that I might save the lives of divers people, I shall set down some Rules for the Cure of this lamentable grief.

The Blood that nourishes the brain, and flows from the nostrils, is wholly arterial, and most pure; 'tis caus'd either by 1. *Anastomasis*, Opening of the vessels, from the weakness of the vessel, plenty and thinness of blood: *Diæresis*. 2. Separation, from a wound, contusion, ruption, rofion. 3. *Diapedesis*, transcolation, resudation, from the tunic being rarifi'd, and blood attenuated. The external cause is known by relation: plenty, and bad quality of blood, shew *plethora*, or *cacochymia*. If critical, signs of coction appear, or a critical day, and the Patient is eas'd. If it flow too much, swooning, dropfie, &c. at last death may follow. For the Cure, let his dyet be thickning and cold, begetting good juice, and of easie concoction. If it be critical, 'tis not presently to be stop'd, especially in a *plethora*.

But the symptomatical bleeding at the Nose is to be stay'd, which is done, by pulling back the blood flowing to the nostrils; by repelling it from those and the neighboring parts, by shutting the open orifices of the veins, by
check-

checking the preposterous motion of the blood, and by evacuating and correcting the sharp and thin humors, mingled with the blood causing the flux, and stopping their growth, and by strenthning the retentive faculty of the liver and the veins; to all which do prevail very much these Rules following.

The pulling back of the blood must be done as soon as can be, before the spirits be too much weakned, and this by opening a vein in the arm on the same side the blood flows, taking little at a time, and often; and you shall make a large orifice, if you find the Patient strong; and if you find the flux stay not with this, and the following remedies, open a vein again, then cut the foot vein.

After opening a vein, or before, let there be used friction, and binding of the extreame parts, and large Cupping-glasses fastned upon the shoulder and *hypochondrium* of the same side, or both, if both nostrils bleed; *Galen*; with these, commands opening the pile-veins; *Forrestus* bids fix Cupping-glasses to the feet, without scarification.

Some fasten Cupping-glasses to the two-headed muscle of the arm.

Crato, in his counsels, propounds the clinching close of the little finger of the hand, of the same side.

Swooning is one remedy, it draws the blood and spirits inward, and cools the whole body.

Zacutus Lusitanus reports, he cur'd a flux, when all remedies fail'd, by applying an actual Cautery to the sole of each foot.

The aforesaid attractives not prevailing, we must come to things that repel, which may be applied to the forehead and temples, behind the neck, and upon the carotide arteries, as *pul. thuraloes with hares-hair*, & *alb. ovi*, dipping flax herds in *alb. ov.* then lay the pultis upon it, and so apply it, from one temple to the other along the forehead; or only *bol. armen. alb. ovi. acet.*

A sure Medicine is made of plaster and vinegar two fingers thick; and if the first stay it not, then apply another.

Amatus Lusitanus praises a Cap made of such astringent things, and *oxycrate* to be put upon the head, being first shaven; in great extremity it may be try'd.

It will be good also to bathe the forehead, arteries, temples, &c. with cold water, or *oxycrate* with cloaths wet in, and removed as soon as they begin to heat, and then wetted and apply'd again: or a Bath made of juice of *Plantain*, *Knot-grass*, *Horse-tail*, *Shepherds purse*, and the like, with a little vinegar, to make it pierce the better. But the head must
not

not be fomented, nor astringents apply'd, till sufficient revulsions have been us'd; lest the blood too suddenly forc'd back, cause a greater flux, or else by suddenly staying, a convulsion, apoplexy, shortness of breath, &c.

Apply Vinegar alone to the forehead, &c. or a wet sponge in it, and put into the nostrils, about a porrenger full at a time of water, with a good dash; and a little while after another, and so with intermission.

The casting cold water into the face, doth not only repel the blood, but doth retract it to the inner parts, by reason of the fear which will be apt to arise thereat.

Also *Oxyerate* held in the mouth, and often chang'd, keeps blood from flowing into the throat.

Vinegar also syring'd into the ear of the bleeding side, is good.

Besides these things that repel, we must think of such as coagulate, putting into the nostrils *pul: thuraloes*, &c.

Also some much commend the blowing of powders into the Nose, as the ashes of eggshells, of paper, &c. but observe whilst this is in doing, the Patient must hold his mouth full of cold water, to stay the medicine from coming into his mouth.

Also the cotton of an Ink-horn, crush the
ink.

ink a little out, make it up into a tent, then put it into the bleeding nostril.

But if for all these remedies the flux stays not, then we must use *escharotics*; but great care must be had, lest at the falling of the *eschar*, bleeding begin afresh: the best is *burnt copperas*; for besides cauterizing, it stays the flux.

If you will have it milder, mingle your *copperas*, thus:

Rx. *Galls* ℥ss. *Alum* ℥iv. calcine them, and make them into powder to be blown into the nostrils.

But such as stay the flux by cooling and thickning, are made of cooling and binding *emulsions*, *juleps*, *cons*, *elect. troches*, &c. as before.

You shall also use outward Remedies to cool the blood, as bathing the arms and putting the feet in cold water, fomenting the stones and back with water and vinegar.

But when we have tryed all these, and the grief be rebellious, then we must use *narcotics*, which stay all manner of fluxes from what humor soever, and that quick; the chief of these is *Laudanum*, given to gr. iii, or iv. in *aq. plantag.* the body being made soluble; but have a great care you give it not to one that is over-weak, lest the natural heat be overcome. *Syrup of Poppies* is good,
dose

dose \mathfrak{z} i. in an astringent *Julep*, to Bedward.

The *Juice of Nettles* snuff't into the Nose, and \mathfrak{z} iii. or iv. taken inwardly, and the herb laid pultis-wise to the forehead, temples, &c. is very good.

Rx. *Hogs dung powder'd* \mathfrak{z} iii. *powder of Roses* $\mathfrak{z}\beta$. mix them with the *juice of plantan*, and with *cotton*, make tents for the nostrils; *Asses dung* so us'd, is very good.

Some take the blood that flows, and fry it, and give it to eat unknown.

Spikenard made into *fine powder* \mathfrak{z} i. at a time, in *plantan water*, doth stay the bleeding.

Whilst these things are doing, we must see whether there be any thin, serous, or cholerick humor mix'd with the blood; if there be, it must be purg'd out, if not at once, then oftner, thus:

Rx, *Tamarinds* $\mathfrak{z}\beta$. *plantan leaves* *M. i.* boil them in *aq. font.* \mathfrak{z} vi. close cover'd to iv. strain it, and pnt to it *rhubarb sliced*, \mathfrak{z} i. *yellow myrabolanes*, $\mathfrak{z}\beta$. *spikenard gr.* viii. infuse altogether 5 or 6. hours, strain them, and add *Syr. resar. sol.* \mathfrak{z} i. *rhubarb powder'd*, \mathfrak{D} i. *F. potio. pro una dose.*

In a bleeding that is ancient, and uses to come upon the Patient often, let him take this Purge, at least once a week, and betwixt every

every Purge astringent *Opiats* or *Juleps*, &c. as thus :

Rx. Roots of *Bistort*, great *Comfrey*, an. \bar{z} i. leaves of *plantan*, knot-grass, rupture-wort, fumitory, an. *M.* i. the four great cold seedes, an, \bar{z} i. boil them in *q.s. aq.* to *lb* i. in the straining. dissolve white sugar \bar{z} iii. for three mornings.

In stead of *Juleps* and *Opiats*, after they have taken them often, they may use now and then a Syrup made with equal parts of Sugar, and the juice of nettles, taking every morning a spoonful.

If the flux proceed from the over-much heat of the spleen, or the reins, then apply cool things to those parts.

To all these, to strengthen the inward parts, let his dyet be thickning, as Calves-feet, Sheeps-feet, New Cheese, Rice, and the like ; his Fruits must be sowre and binding, as Pears, Quinces, Medlars, Services, Conserves made with juice of Pomegranats, Limons, Oranges, Sorrel, &c. let him abstain at first, whil'st he is strong, from flesh meats, &c.

If he be weak, give him some flesh Broths or Panadoes, in which is boiled white starch made pure without lime.

For his drink give him water wherein steel hath been quenched, and in such water let all his meat be boil'd, having first boiled in it some Nettle-roots.

Let

Let him keep himself as quiet as can be, neither walk, nor speak, nor cough; for the stirring of his tongue and jaws increase the flux.

Let his face be cover'd, and his eyes clos'd, that he see not the blood, for meerly conceit oftentimes moves the blood to a greater flux.

Let him avoid immoderate watching, for that will render the blood sharp, and more fluid; sleep tempers the humors, and stays any manner of flux.

Finally, Let him shun passions of the mind, as Anger, Laughter, Joy, &c.

A N A P P E N D I X.

Rules for Bleeding and Purging, &c.

Phlebotomy is practi.'d in five Cases.

1. To evacuate in a *Plethora*, and Inflammation.

2. To draw from the part affected, as months suppress, &c.

3. To revel, derive, of which before, all this *per se*: For,

4. It cools, but by accident.

5. To preserve, by hindring fluxions, and inflammations, Spring and Fall, for divers other

other griefs; every vein evacuates more or less; the veins in the arm vacuate from the head, and parts below the neck; the *Saphena*, helps those parts that are lower, as the bladder, womb, &c. and all parts below the reins; but the reins, hæmorrhoids, months, are cur'd by cutting the upper veins; but if they are obstructed the lower. Arteries are rarely cut, because of danger; and if the *Virtuosi* could invent a way to open them as safely as veins, they would oblige Mankind for ever. The middle age bear *Phlebotomy* best; yet in necessity any age, but sparingly; therefore *Galen* lets not blood for prevention till 14, nor after 70; by reason of debility, and defect of blood; but if they have much blood, strong, and disease require, they may phlebotomize, as *Avenzoar* let his Son blood but three years old. The habit is likewise to be look'd to, for those that have large veins, not too lean, nor whitish, of tender flesh. may bleed more, the contrary less; so that 'tis more proper for Men, than Women; in Spring and Autumn, 7, *Apb.* 54, than Summer and Winter. The same of Regions; hot Air dissipates the spirits, and humors; cold, *è contra*, cools more one that hath lost blood; but upon necessity let blood in any place and time. For preservation, in the morning, an hour after Sun-rising. In great diseases any hour, and

and in the beginning, and any time of the disease: If he hath used a full dyet take boldly, else sparingly. Sometimes you may let blood *ad animi deliquium*, i. Aph. 23. in great burning Fevers, because it cools the body, moves the belly, and sweat. In great inflammations, it lessens blood, and hinders its motion to a noble part. Lastly, 'tis a remedy for the greatest pains, so that it may be almost call'd *maximum remedium*; but this *animi deliquium* is a deceitful measure, for some faint presently, others not, though they bleed too much, so that 'tis safer to keep within bounds, and repeat it.

To *Phlebotomy*, belong *scarifying* and *cupping*, of which before, only note, this without that discusses winds, evacuates insensibly, stays bleeding, vomiting, months, 5. *Aph.* 50. Small ones serve after evacuation, they hurt in the beginning of inflammation and *plethora's*; they evacuate much apply'd to the arms, hams, buttocks, &c. and scarified, to revel, attract, &c. in acute diseases, fluxions of the eyes, diseases of the head and breast: Their effects are in a mean, between bleeding and leeches; bleeding draws from the profound parts, cups those nigh the skin; leeches, those between the profound and skin. If the blood be gross, foment the part well with warm water, before you fix them, but of these before.

Leeches

Leeches belong to bleeding too, they wound the skin with a triangular bite, they are us'd where cups cannot, as in the gums, lips, arms, &c. if you let not the blood flow after they are taken off, in the hæmorrhoids, you will not find such great wonders from them, for my ever honoured Master, Dr. Patin was wont to say, *That they are little cunning Animals, and suck the purest and finest blood, and so leave the gross.*

Apply them not, till you have kept them a fortnight, or three weeks, in fair water, changing it every third day, then take them in the middle with a clean cloth, and apply them; if they will not bite, wash with a little warm milk the part, or a little Pidgeons blood, or scarifie it a little; if you would have them bleed more, cut off their tails; if you would have them fall, rub their head with aloes, or salt, an argument they suck sweet blood; when you would stay the flux, apply a cleft bean, or tinder, and bind where you may. After they are taken from the hæmorrhoids, let the Patient sit over a basin of hot water, and you may have as much blood as you will.

Purgation is an evacuation of humors, that offend in quality, *Gal. in 2. Aph. 1.* by quality here you must not understand simple heat, cold, &c. for then alteration would suffice, but a cacochymic species, or redundance of humors

humors inept for nourishment. *Si talia purgentur, qualia purgari oportet, confert & facile ferunt*, 1 Aph. 2. *Sin minus contra*. Now according to the three Regions of the body, you are to order your Purges; the first Region, since the invention of the circulation of the blood, is the intestines and stomach; the 2d takes in all kind of vessels, including the *meseraics* and *capillaries*; the 3d includes what is without the vessels; yet the method still remains inviolable: that to the first you must use lenient, to the 2d cathartics, to the third strongest and sudorifics. Purging is either by vomit or dejection, gently, meanly, or vehemently, and taken at mouth, or *anus*, as clysters, &c.

But let those who vomit, be easily urg'd, and accusom'd, having a large breast, 4. Aph. 6. *Hippocrates* counsels to vomit two days together, for the second carries off the reliques, strong ones empty the liver and *viscera*, gentle the Stomach, proper in Paroxisms, and at other times.

Dejection, is proper for the sick and neuter, not sound, unless very gentle, 2. Aph. 36. 4. Aph. 16. nor old, nor infants, but by nurse, or suppository, &c. the Ancients open'd passages by moistning meats, clysters and baths, 4. Aph. 13. &c. thick humors are to be attenuated, 2. Aph. 9. thin need no preparation.

tion. Purge not in the beginning of a disease, till you see signs of concoction, unless humors be turgent; *i. e.* mighty unquiet and malignant, lest they fall upon some noble part. For *cocta purganda, non eruda*; now coction is an action of the natural heat upon passive qualities, and 'tis either of meat, and humors for nourishment, or of morbid humors; that is natural, this partly natural, partly preternatural; for the humor, being not altogether benign, nor wholly strange, 'tis not fully overcome by heat; so that they must be such, as hot syrups, &c. that concoct, cold can but prepare: *venesection*, gentle cathartics, alteration by contraries help preparation; serious humors cannot be concocted; hot syrups, &c. help concoction, (but concoct not of themselves) by cherishing the heat, which concocts after; the same of hot wine, meat and drink, &c.

2. Look to the nature of the disease, which the humor indicates, as a cancer from *atrabilis*, a tertian fever from bile.

3. The habit of body: thin, extenuated, cold, dry bodies, &c. are sparingly, or not at all to be purg'd. Women with child are not to be purg'd, unless from the 4th month to the 7th.

4. The Air, for too hot, or too cold, is hurtful; in a hot season bodies are less apt to purge,

purge, 4. *Aph.* 5. before and after the Dog-days medications are difficult, because the spirits are exhausted by heat, which is augmented by purgers; heat draws to the circumference, the medicines to the centre. In Winter, humors are scarcely mov'd, because cold densifies; Spring is the best, then Autumn; the same of a temperate Region, &c. yet if necessity, purge at any time, even upon a critical day, if judgment be not then expected; whence *Hippocrates* purg'd the 7th, 14th day.

5. Know whether he formerly used a bad dyet, as in Famine or War, then you must purge by degrees; *interim* nourish with good meats; so those use much exercise, need little purging; or those apt to vomit, &c. *Dejectiones non sunt numero estimandæ*. Beware of too strong, or too gentle evacuation; strong weakens, hurts the Stomach, 2. *Aph.* 3. causes convulsion, and other bad symptoms; gentle, *movent sed non promovent*, causes griping, &c. According to *Galen*, *Phlebotomy* ought to precede; *ubicunque majoris utriusque Presidii equalis occurrit necessitas, à venesectione est auspicanda curatio*; but some premit a clyster, which is call'd *purgatio minorans*, to remove the impurity of the first region, lest it should take place of the vacuated blood; 'tis good that the rest may be the easier concoct-
ed.

ed. Purge not in a Paroxysm, unless in quartans, and chronics, and strong men; for the thick humor is easier purg'd when 'tis mov'd; you may sleep a little after a strong one. The place affected, and inclination of the humor, shew by which ways you are to purge, as the head by the mouth, nose, &c. the whole body by the intestines, the Stomach by vomit, and belly, taking heed always of purging by the part affected, as in the head affected by sympathy, beware of vomiting, but revel downwards. Lastly, if symptoms vanish, and thirst follow, the Purge was complete.

Purgers by *Urine*, separate the blood and *serum*; are proper in diseases that occupy the veins and gibbous part of the liver, so let the humor be little or mean, else 'tis to be evacuated *per alvum*, unless nature inclines to the reins, and it be concocted; for they irritate crude humors, unless very gentle, which may be taken with meat, as *sem. melon. &c. crem. bord.* Beware them if the urinary ways be ulcerate, &c. then purge first; they hurt in suppress'd urine, and cutaneous diseases, and hot, dry, tabid bodies, and obstructions, before purging, but wonderfully profit womens flux, proper rather in the declension, than other times; coction is not less necessary here, than in purging *per alvum*.

Sweating is good in pestilent Fevers, and other

other diseases; to evacuate hurtful humors about the habit of the body, or in the veins, not in the Stomach, or Guts; taking heed it be not immoderate, lest it weaken, 6. *Epid. Sect. 2. Aph. 21.* in a hot constitution, time, hot diseases, and meagre, abstain from the hotter, give them fasting, after purging, unless the disease be malignant. My ever honoured Master, Dr. *Patin*, says, it purges only *serum*.

Baths are prescrib'd warm, by *Avicen*, to hot, dry tempers, if universals have preceded, in declining of a Fever; it opens the pores, moistens, resolves the relicts of humors; if thin and few, in the habit of the body, &c. as in sweat; too hot, *è contra*. They are natural as *thermæ*, or artificial; all *thermæ* heat, and dry, salt, nitrous, sulphurous, bituminous, are for cold and moist diseases, as *Gout*, *Palsie*, *Asthma*, *Catarrhe*, *Dropsie*, *Ulcers*, *Scabs*, *hard Spleen*, *Liver*, *Womb*, &c. *Aluminous*, for spitting blood, vomit, hæmorrhoids, too many months, abortion, too much sweat; iron and calcanthous for the Stomach, Spleen, Reins, Ulcers, &c. they help all parts they touch mediately or immediately, not for people in health; enter the Bath naked, or with a shirt, &c. the head well cover'd.

A temperate Bath may be us'd any time, a hot only in the Spring, and beginning of Summer;

met; early, or presently after Sun-rise; at evening, two hours before Sun-set, after general evacuation; because it only evacuates thin humors, leaving the thick; time of stay, according to the Patients bearing, less in the beginning; after longer, to two hours; for 20 or 30 days, or more: the Clay is good for the same effects, but to be wip'd off with the same, or hot water.

The *Artificial* supply the natural, by dissolving *Sal, Sulphur, Nitrum, &c.* A Bath is also made of hot or temperate water, the last for children, old people, women, tabid; it moistens, loosens, softens, attracts aliment, helps scabs, weariness, itch, pains, winds, melancholy, heaviness of the head, watchings; long stay resolves and dries, shorter softens and strengthens; hurts with a full belly, and plenty of crude humors; or weakness of a principal part.

A cold *Bath*, though it may profit by *Antiperistasis*, strengthen fleshly men, stay flux, yet it hurts children, old men and meagre; Baths may be made also of oil, milk, wine, &c. of the nature of which simples they partake. *Pliny, 5. Ep. 6.* recites divers parts of an artificial one, which are not us'd with us.

Mineral waters are us'd to be drunk also, they are hot or cold; believe not that those which wash solid metals, as Gold, Silver, &c.

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can obtain any thing from them. They partake of the spirits of metals, or those minerals which may be dissolv'd in water, as the *aluminous*, *nitrous*, *calcanthous*, which are believ'd to be iron, but *calcanthum* is the original of brass and iron. *Bitumen* and *Sulphur* swim a top whence the water is unctuous, of a clayish color, it softens and opens. *Nitrous* are of a sharp taste, loose the belly, dry, absterge, akin to which are the saltish. *Aluminous* are known by the taste with binding, they cure ulcers, and fluxes. The sharp taste, shew the *calcanthous*, good in all obstructions; some consist of two or three minerals, as *Sal*, *Sulphur*, *Alumen*. They are to be taken in great quantity, proceeding by degrees; considering the nature and age of the Party, first take lb ii, ascending to lb v. or vi. not all at once, but between 2 or 3 hours space, every hour repeating the dose twice or thrice; if the water be cold, drink no fresh, till that first be warm'd, and no heaviness perceiv'd; they force a way by their plenty by siege or urine; yet to promote operation, some add opening *syrups*, *limon*, *byzant. capil. vener. &c.* or solutive, *sal*, *manna*. pouders *diacartham. &c.* walk-after every draught, not to sweat, supper larger than dinner, drink White-wine or Ale; if they work not; use cathartics and clysters, as *jalap. sem. ebul. &c.*

Of particular Evacuations before : only note, *Errhina's* hurt diseases of the eyes, ulcers and tumors of the nose ; as *Sternutatories* in *vertigo* and *epilepsie* ; so *Masticatories* and *Apophlegmatisms*, of the Mouth, Stomach, Breast, by drawing humors to the parts.

For *Bechies*, they hurt in inflammations, ulcers, and tumors of the breast and lungs ; but are good to evacuate *pus*, to cut humors if thick, and bring them in mediocrity if too thin. By the palate, not only the breast, but the whole body is emptied be quick-silver.

If he vomit too much, give milk boil'd with bread, or *mastich* ; smell of a toast in vinegar, bind and rub the extreme parts ; or first apply *empl. è crust. panis*, or a pultis of leven and mints ; or fix a cup to the bottom of the Stomach, give *syr. menth. absinth*, &c. *diacalaminth. arom. ros.* a powder of coral. corn. cerv. ust. *menth.* last *theriac.* or one pill of *laudan.*

If he vomit not within an hour, or so, after taking it, give him a 4th, 3d, or half of same, or some other he took before.

If one purge too much, stay it not suddenly ; but give lubricating, lenifying, thickning things, as *mucilag. sem. ciden. psyllii, malv. gum. tragac. aq. bord.* tepid, or any tepid water ; if blood come, *Rx. ol. amygdal. dul.*

Here

Here your *Chymists* cry up their preparations as the best, because, say they, they continue the belly loose for three or four days after; for which I like them the worse, because by their too fiery nature, if given by ignorant hands, they prey too much upon the *humidum radicale*, and cause a colliquation.

Thus much for the Rules the young Artist ought to observe in administering the *maxima & generalia remedia*.

A N A T O M Y.

TO enumerate its Antiquity, Progress, and Excellency, would be needless, being all have it in great veneration, except your Quacking *Chymists*, who have been sufficiently reprov'd in all Countries, and by several in ours, last of all by the learned Pen of Dr. Goodall, who, I may say, *Hic murus abeneus esto*; as old as Jacob, Gen. 52. and other places in the Jewish Law, Eccles. 12. all Homer's Poetry flows with flourishes of it. Its utility to all, besides Physician, Chyrurgion, Apothecary, I shall wave, save the two last. To the Chyrurgion 'tis absolutely necessary, for if ignorant herein, he may commit mortal errors; and how can the Apothecary apply topics by the Physicians order, if

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he know not the site of the parts ? so that you see as divine *Plato* would let none enter his School of Philosophy ignorant of Geometry, so none the School of Physic if ignorant in Anatomy ; which is the basis of Physic, and if unknown or neglected. the whole Fabric, must needs come to ruine.

'Tis an exact artificial dissection of a body, 1. In general, into the trunk ; *i. e.* head, breast, belly and limbs ; wherein you see a bone, cartilage, ligament, membrane, fibre, vein, artery, nerve, flesh, fat ; similar parts, of which the dissimilar are made ; compound, as the heart, &c. more and most compound, as hands, and limbs : of all which in order.

A Bone is a most cold, dry, earthy, hard part, made to be the pillar and defence of the other parts. A gristle is softer than a bone ; in old men sometimes it degenerates into one ; they are plac'd about the ends of bones, glud to them for their conservation and easie motion ; yet some are separated, and make a separate body, as those of the lower jaw, the articulation of the clavicles, the sternon ; articulation of tibia and femur ; besides those of the larynx, and wind-pipe ; others prop up soft parts, as the nostrils and ears.

A ligament binds the bones together ; softer than a gristle, harder than a membrane.

A membrane, or coat, is soft and dilatable,
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the covering of other parts, or the receptacle of something, as the *stomach, bladder, gall*: therefore 'tis properly a *tunic*, if it make a hollow body; if it embrace a solid body, a *membrane*.

A *fibre*, is a thred stretched over a *membrane*, or interwoven for its strength; according to its various site upon it: 'tis divided into *right, oblique, and transverse*; not only for their mutual help, but to strengthen the *membrane*; from every one, 'tis thought, is performed an action; as the *right* draws, *transverse* reteins, *oblique* expels; which absolutely depends on the inbred faculty of the part, which, as it hath violent dilation, so hath it spontaneous and natural contraction, by reason of the *fibres*.

A *vein* is a membranous vessel, round and fistulous, allotted to contain and conduct blood through the whole body.

An *artery* is a pipe of the same membranous nature, but a little harder and thicker, design'd to contain and distribute the arterious blood, up and down.

A *nerve* is a pipe made to carry animal spirits, which because 'tis most subtle, therefore the cavity of this pipe is so small, that 'tis not discernable. *Flesh* in dissimilar and organical parts, where a bone is wanting, is the foundation of the other parts, and makes the chief

part of corpulency ; 'tis soft, thick, concreted, and concocted of blood only, if red ; or of blood and seed, if white : *viscerous* and *musculous*, very red ; *membranous* and *glandulous*, white ; for every substance of the bowels is call'd flesh, or *parenchyma*, a congelation of blood. The thicker substance of certain membranes which are the conceptacles of something, which by dilating and contracting their body, ought to draw, retein, and expel, is also call'd flesh, or flesh-like substance : the thick spongy substance of the *glandules*, is call'd flesh ; but chiefly the substance of the muscles deserves the name of flesh. The *fat*, though it appear, all the parts being finish'd, and in a big child, and grow to to the parts themselves ; because in the composition of organic parts, it oft concurs to make the bulk ; my ever honoured Master, Dr. *Riolan*, numbers it amongst the similar parts : 'tis the thinnest part of blood, fat and oily, sweating out of the veins through their tender coat, and hardning about other membranes ; 'tis twofold, with *Aristotle*, Prince of Philosophers, softer, outer, harder inner ; *i. e.* *Pimele* and *Stear*, Grease and Suet.

Of these you will hear mention often made in explication of the dissimilars, though in some places they exist a part, not join'd to others to make an organ, but are consider'd

according to their peculiar uses; Yet are united in organic parts, to perform action, or for use; and according to the various offices they execute to effect action, are divided into four orders; for in every organ there is the chief part, by which action is perform'd, another without which it cannot be done; a third, by which 'tis conserv'd: But in every organ the chief part ought to be similar, and proper to it, such as is not found in any other; which similar cannot officiate alone, if not helpt by others, therefore the consent and union of others is necessary; wherefore every moveable action properly belongs to an organic; none, unless alteration, to a similar, to which, besides the composition of an organ, belongs only use, which it contributes to perfect organic action. So from the dignity of their action, organics are divided into 1. principals, which supply the whole body with matter and faculty; with Physicians they are 3. *Cor.* *Cerebrum*, *fecur.* *Aristotle* held but one, *i. Cor.* King of all; the rest are 2, *ministring* and *subservient*.

Now exactly to investigate the structure of every part, observe its *name*, *substance*, *temper*, *origine*, *site*, *quantity*, *number*, *figure*, *color*, *connexion*, *communion*, *action* and *use*. *Connexion* differs from *communion*: for *connexion* is an adhering of a part to its neighbor,

hor, be it one or more, of which it depends ; which is sometimes taken for the origine of the part it self ; yet in some parts origine is distinguish'd from connexion : But communion with parts nigh or remote is universal, by veins, arteries and nerves, by whose intervening all parts communicate with one another ; or particular, when any part communicates with remote or nigh parts, by peculiar pipes ; so the gall communicate with the liver, and *duodenum* by bilious passages ; the reins and bladder, by the ureters, with one another.

Order of doctrine begins with the bones, but dissection with the belly, in Greek *Coilia*, because hollow ; sited from *costæ nothæ*, or *diaphrag.* to *os pubis* ; hath three Regions, upper, *Stomachal*, middle, *Umbilical* ; lower, *Hypogastric*. The sides of the upper are *Hypochondria*, of the middle *Ilia*, the lower the *Navel*. Sides of the *Hypogastric* are *inguina*, the middle *etron*, the lower *pubes*. Divided by *peritoneum* into greater cavities, which hold the nutrient parts ; and the lesser the bladder, genitals in men, and womb in women, which bare no child. Hath parts containing and contain'd ; the first proper, common, and diverse ; common, *cuticula*, *cutis*, *membrana*, *adiposa*, *carnosa*, & *communis musculorum* ; proper, the *muscles* and *peritoneum* ; diverse, because

cause refer'd to other place and use, are partly fleshy, parrly bony, as *vertebræ lumborum*, & *pelvis* and *muscles* as hereafter. The contain'd are nutritial, and genital; 'tis knit outwardly to the breast and lower limbs, by the skin; inwardly by *peritoneum*. It presses the parts contain'd to expel excrements up and down, and force the child.

Cuticula first appears, like the peel of Onions, *efflorescentia cutis*; next *cutis*; of an exquisite temper, porous for insensible transpiration; immoveable save the forehead, not in Beasts, and the Elephant kills Flies, moving his skin, rids sweat, and fuliginous filth. Then *Membrana adiposa*, sticks close to *cutis*, and *membr. carnos.* save in forehead, cods, and yard; warms in Winter, cools in Summer: under it is *membr. carn.* obscure in aged, in brutes 'tis next the skin, by which they often move it, rigor comes from it. Next *membran. commun. muscul.* thin, yet strong, compassing them like a girdle.

Before the muscles of the belly are treated of, the general doctrine of them is to be premis'd.

A muscle is an instrument of voluntary motion, depending on our will; and because it governs the action, 'tis dissimular, compounded of many similars, in which flesh predominates; yea, by flesh, *Hippocrates* and

Aristotle understand muscles. Besides flesh, 'tis compos'd of a vein, artery, nerve, fibre, membrane, ligament or tendon, and so hot.

Its true original is blood in the first forming of parts, but by connexion in its ends, 'tis said to rise from a firm part, and be inserted into a moveable one, because design'd for motion, which is caus'd from something at quiet.

This original and insertion is known by conduct and series of fibres, whereby you may judge of its site, whether right, oblique, or transverse; for by these positions in a man's body, all the muscles of it inward and outward are dispos'd.

Their quantity and magnitude are various, according to the variety of places, and parts to be mov'd, which require greater or smaller muscles.

Their number great, my ever honored Master, *Dr. Riolan*, computes to be 431. but since our body is double, its muscles are so too; few single, as *sphincters* and *diaphragma*.

Their figure various, *square*, *triangular*, *round*, *long*; *four-sided*, *deltois* like Δ *three-sided*, yet are usually round, whether you regard its circumference in a plain muscle; or its bulk in a long and thick one: Therefore *Hippocrates l. de arte*, defines a muscle, flesh turn'd about
into

into an orb; but their greatest part are longish: wherein observe their middle more swell'd, the ends narrower; the middle is call'd *venter*; the immoveable end *caput*, the moveable *tendo*, or *aponeurosis*, because 'tis inserted into the part to be mov'd; each end, for the most part, is nervous, but *tendo* is all nervous, in almost all the long muscles; *venter* is carnous, seldom nervous.

Their color red for the most part, livid, and leaden in a few, sited in some fordid place.

Their connexion double; in both ends, and deverse parts; whereof one ought to move, the other not. Moreover, they move the parts to which they adhere in passing, though not design'd so to do.

They all communicate with parts by veins, arteries and nerves, which they receive above their *venter*, to infuse in them a motive power.

Their action is universal, agreeing to all of 'em, *i. motion*; particular, *i. the motion of some one part*. This is perform'd by its contraction, when whil'st retracted towards its head, 'tis shortned, and swells without; which agrees with all, except those of *abdomen*; which, acting and contracted, swell within, because they have no opposite bones to thrust against; therefore its true action is contraction, or conserving what is contracted;
ed;

ed; which motion is call'd *tonicus*, in one muscle remaining long in one figure, or in many acting and extending together, as when the whole hand is held long elevated and extended.

The motion of other muscles, as extension and relaxation, are only by accident. On these motions depend the motion of the parts, which are not only distinguish'd by difference of place, before, behind, upward, downward; but also by figure of the part, which is the site of the part in motion, Now their *site* is either larger, and that *streight*, call'd *extension*, or *oblique*, and that either *lateral*, as *abduction*, and *adduction* in the finger, or with *inversion*, as *pronation*, and *supination*, in the hand and *radius*. Also by reason of their like or contrary motion, they are call'd fellow or brother muscles, which in opposite places conspire to the same action, as the muscles, which bend the cubit, are sited in the same part; the temporal muscles which move the jaw in divers parts: such as perform a contrary motion, are call'd *antagonist*, as the benders are opposite to the extenders.

The fellows are almost alway alike in *magnitude*, *number*, *strength*; the antagonists vary much according to the weight of the part to be mov'd, or vehemency of the action. The conduct of the *fibres*, shews the manner of
action

action in a muscle by its site ; for so you may easily distinguish a right one, from an oblique and transverse. Also the diverse conducts of the *fibres*, in the same muscle, as they are directly carried to divers risings and insertions, shew the diversity of actions in the same muscle, as in the *Trapezium* ; for by the extremities of the *fibres*, you know the *head* and *tendon* ; where the nerve is inserted, there's the head ; but the *tendon* is more nervous than the head, and directly opposite. If a muscle perform one action, or many, according to the variety of its rising, it obtains divers connexions, *i. heads* and *tendons*.

Now a *tendon* is the extreme part of a muscle, by which we bind and move the bones: begot in the first conformation, the first and chief part of a muscle, which takes its beginning from the muscle's rise, and is spread about all its body ; if a *tendon* is nervous in the beginning, 'tis so in its end ; or if in the beginning it be divided into flesh by *fibres*, they are after united to form a *tendon*. Such have strong muscles, which execute strong action in flexion, extension, and tonic motion, as in the upper and lower joints, and back, for the erection of the spine or trunk of the body : other muscles, as they are fibrous in the beginning, so are they in the end.

Much fat is cast about a hard and rough
tendon,

tendon, to moisten it, that it may move the easier; therefore *fibres* disperse through the flesh, are nothing else than a *tendon* so divided, and torn asunder; and *vice versa*, a *tendon* is nothing else than united *fibres*; and therefore a *tendon* is either compact and solid, or divided into *fibres*.

Now *tendons* are solid or plain, or membranous, or round, short, or long; if they be nervous in the beginning of a muscle, they will be such in the end: sometime they are seen nervous in the end, although they have original from the fleshy head of muscles.

The hardness, thickness, lightness, and silver whiteness, with excellent clearness of a solid, long, or membranous *tendon*, is admirable; whence it acquires so much comeliness, that *Fallopious*, a most excellent *Paduan* Physician, affirms there's nothing more beautiful than a *tendon*, and chrystalline humor; wherefore since 'tis a similiary part, begot of seed, endow'd with a peculiar substance, such as is never found but in a muscle, it may deservedly be thought its chief part, on which depends its action; the other parts co-operate with a *tendon*.

Of the *muscles* after, under which lies the *peritoneum*; stretch'd over all the parts of the guts, whence so nam'd, *ab Arabibus siphac*; 'tis the largest membrane in the body; double
and

and unequal, observ'd to be thickest from the navel to the *pubes* in women, in men contrary. The external membrane is knit to the *vertebræ lumbor.* the internal is disjoin'd to receive the reins, and redoubled to make the *mesentry*, cover the *diaphragm*, and liver; communicates with chief parts, and particularly with all parts contain'd, giving them membranes, *ergo* may be call'd their mother; as *meninges* of the brain, white as other membranes are.

Next the *Caul*, a thin, double, fat membrane, divided into four parts, *intestinal*, *hepatic*, *lienal*, *mesenterical*, because it covers them, and rises from the last. Under this lie the *Guts*, a tubulate body, rising from the *pilorus*, and diversly circumvolv'd, end in *anus*; 'tis one body, but diversly, nam'd, because of its divers conformation, use, life, &c. chiefly divided into thin and thick; the thick surround the thin in the middle; the thin divided into,

1. *Duodenum*, 12 fingers breadth in length, begins at the Stomach.

2. *Fejunum*, betwixt this and *duodenum*, is the choler passage, near which is the Sweetbread passage observ'd by *Virsungus*; it begins where the guts begin to be wreath'd on the left side; lies wholly in the navel region a cubit and half long.

3. *Ilium*,

3. *Ilium*, from winding, slenderer, but longer than the rest; occupies *Ilium* and *Hypogastrium*; it is subject to *passio iliaca*, which is an inflammation, not a twisting of it; and falls down sometimes into the groin, and cods. The thick,

1. *Cecum*. and its wormlike appendix.

2. *Colon*, the largest of all; it begins at the right rein near the appendix, and turned upward, lies under the liver and stomach, passeth to the left *Hypochond.* where 'tis wreath'd: in its obliquation and descent towards *Ilium*, it touches the left rein, and a little below, bowed like an S, ends in the top of *Os Sacrum*. To its beginning is fastned a valve opening downward, hindering any regress from the great guts to the small; 'tis knit to the membrane of the *peritoneum*.

3. *Rectum*, which from the top of *Os Sacrum*, *pergit ad annum*; they are seven times longer than the body, the thin are to carry the *chyle*, the thick to receive the excrement;

The *Mesentry* binds the guts in their places; seated in the middle belly rises from the *vertebræ lumbor.* 'tis double, between is fat, and many *glandulæ*, and a fourfold kind of vessels, (*venæ lactææ* being the 4th) Seeing it communicates with the spleen, *per arterias celiac. & venam splenicam*; the guts by connections, liver, &c. and hath a fat glandulous sub-

substance fit to retain impurities, it may well be call'd the Nurse of diseases; therefore with *Fernelius*, one ought to have a great care to purge it, &c.

The *Sweet-bread, Pancreas* is a spongy mean between flesh and glandul, reaches from *hepar* to *splen*, both whose filth it receives, call'd the last's Deputy, and lies under the Stomach.

Within the belly are contain'd two notable veins, one call'd *porta*, dispers'd to parts design'd for nourishment, going no further; the other, call'd *cava*, nourishes the whole body; cast without *peritoneums* cavity, join'd with *aorta*, creeps along, *lumbos* and *dorsum*; and is thought produc'd from *cor*, not *ven. porta's* trunk; descending the belly, emits,

1. *Gastrepiploim*, distributed to the stomach and caul.

2. *Intestinalis*, to *duodenum*.

3. *Cysticae gemellae*, to the *gal*.

4. *Gastrica minor*, to the right side of the stomach.

These branches thus produc'd, the trunk is divided into two famous branches, *spl:nical* and *mesenterical*; this into four, of which the largest keeps the name.

2. *Hæmorrhoidalis* slides to the right gut.

3. *Cæcalis*, carried to the blind gut, or beginning of *colon*.

4. Goes to, and nourisheth the rest of *colon*, lost in the *pancreas*.

The

The *splenic*, where it is detected, produces four opposite veins above and below; *Gastrica major*, ascending to the left side of the stomach; *Epiploica dextra* opposite to this, dispers'd to the gaul; *coronaria stomachica* to the stomach; *epiploica sinistra* to the caul.

The *celiacal* artery accompanies the branches of *vena cava*, and is a branch of the great artery descending; and look into how many branches *vena porta* is divided, into so many is this; communicates with *vena porta*, by conjunction of their mouths. In *Hippocrates; lib. de morbis mulierum*, 'tis call'd the breathing place of the lower belly. *Duret in Coac. Hipp. p. 383.*

Notable is the *splenic* artery, which goes not by the *pancreas*, but creeps according to the longitude of the *diaphragm*, by the spine; 'tis as big as the *splenic vein*, ambiguous in its progress, and gives no branches to neighbor parts: inserted into the spleen by a double forked branch, as the *splenic vein* is; so when the *celiacal* artery is taken away, look not for any other *splenic* artery, unless two or three small arteries, passing to the stomach.

The Stomach consists of 2 proper membranes, and 1. common from *peritoneum*, sited between the liver and the spleen, like a Bag-pipe; the ingress is call'd *Stomachus*, the egress *Pylorus*,

Pylorus, equal in heighth, lest Viſtals ſhould ſlip through before digeſted; communicates with all parts of the body.

The liver, the organ of blood, is like concreted blood, ſited in the right *hypocondrium*, under the ſhort ribs. In man 'tis not divided into lobes, or fingers, as in brutes, yet there is a cleft, where the umbilical vein creeps into it, and ſometimes two little ones under it, or one which receives the *vena porta trunk*; though it be continuous, Anatomists divide it into two Regions.

1. Superior, exterior, call'd gibbous, into which *vena cava* ſprinkles its roots.

2. Inferior, interior, call'd *cavous*, into which *vena cava* ſcatters hers.

The *gall-bladder*, is a two-coated membrane, receives the choler flowing from the liver, fix'd to its great lobe under it, it reſembles a large Pear; hath cyſtic and hepatic pipes to carry choler; that carries thin choler into this, which carries thick and all away.

Spleen is plac'd againſt the liver, and is its baſtard, and lieutenant in blood-making; ſpongy, ſprinkled over with many veſſels like thrids; knit into the ſtomach by remarkable veins, call'd *vas breve*, by which it diſburthens it ſelf into the ſtomach; ſplenic veins and arteries into the guts and reins; like a tongue in brutes, the ſole of a foot in men.

Here

Here of the *vena cava*, and *aorta*, within the belly.

The trunk of *cava* in respect of the liver, which by a branch supplies it with blood, may be divided into the upper and lower trunk; the lower produces *vena adiposa*, dispers'd into the fatty membranes of the rein, then the emulgent, distributed to the rein; then the spermatic, whose right side rises from *cava's* trunk, the left from th' emulgent; lastly, it emits 3 or 4 branches, call'd *lumbares*, into the loins, even to *spinæ medulla*.

When the trunk comes to the top of *os sacrum*, 'tis parted into two pipes, which from their site are call'd *Iliaci canales*. From these on both sides are produc'd other veins, chiefly *Sacra*, *Hypogastrica*, *Epigastrica*, *Pudenda*. In Women *Hypogastrica* is larger, and nourishes more parts, holds the menstrual blood, till fit for voiding; *Epigastrica* is twofold in women, 1. Ascends to *musculus rectus*, th' other opposite descends to the womb.

Seeing the veins are the vessels and conceptions of blood, they have a thin coat, except that this *cava's* trunk hath a thicker and stronger, to prevent breaking, if the blood should swell and boil in't, and might by the coats tenderness sweat and breathe out. *Hippocrates* elegantly calls the veins *spiracula corporis*; because they being open'd, there issues
a fu-

a fuliginous spirit with the blood, and at the same time Air let in cools.

The descending trunk of *aorta* emits so many branches, as th' inferior trunk of *cava* produces; but transmits the remarkable splenic artery undivided, winding to the spleen. This is broad, of the thickness of a quill, furnishes it with arterial blood, that the thick blood might be attenuated, and made fit to nourish the stomach, and neighbor bowels; and afford a fermenting juice to the stomach for chylifying, by that inixtion of both bloods. Perhaps also in a great obstruction of a viciated liver, arterial blood may be brought to it by the *splenic vein*, and be as it were a natural tartar vitriolate, to decoobstruct it.

Then it produces *celiacæ*, which is divided into as many branches as *porta*, and hath communion with it by a mutual anastomosis, i. conjunction of the mouths of the vessels.

Th' *aorta* trunk is made of a tunic 6 times thicker than a vein, so not subject to an *aneurisma*, as the lesser arteries are, from their coat dilared, broken, or open'd, as in an artery cut for a vein, in the arm.

Between the reins at the base of *mesenterium*, look for *Fallopian's* texture of nerves, wove of the *stomachic* and *costal* meeting on both sides; from which are deriv'd all nerves distributed to the lower belly.

Renes

Renes, instruments of drawing and separating *serum*, have a fleshy substance, the like in no part; sited in the loins, within the *peritoneums* folding; and seem to be plac'd without this cavity; said to begin at the last bastard rib, they are two that one might supply the office. From the hollow side spring the *ureter* and *emulgent veins* and *arteries* proceeding from *cava* and *aorta*. Within are *Pelvis* form'd of *ureter* dilated, into which drops *serum* through 9 *carunculæ papilares*, where 'tis separated from the blood, which nourishes them, or reflows to the emulgent veins; these are sharpened without into 9 pipes, made of the *ureter* dilated.

Ureter is a Pipe to convey the urine to the bladder, which is its original, rather than the reins, because membranous; within the reins parted in nine, fitted to the *papilar caruncles*, to distill the *serum* into the *ureter* basin within them.

The *Piss-bladder*, is of a membranous substance, consisting of two coats, the third, which is attributed to it, is a doubling of the *peritoneum*, in which it hangs, like a bottle invers'd, and with this partition is severed from the guts, and other parts, only in man, lest it should be displac'd with the weight of the guts; it's shap'd as a bottle invers'd, whose bottom is in the lower *Hypogastrium*,
the

the neck hid beneath under *ossa pubis*. The urine passes out of the greatest hole, the other two are the ends of the *ureters*: *muscul. sphincter's* form'd of it, contracted, shuts its orifice. There is another *externus splenicus*, two fingers broad, placed about its neck, and prostate *glandules*, upon this depends the power of its shutting and opening, it hath veins and arteries from the *hypogastrics*, nerves in its neck from *os sacrum*; in its body from a nerve of the sixth pair.

Of the *genitals* in Man, the yard, with the bladder, is first to be explain'd. It hath no scarf skin; cover'd with loose skin, which doubled makes the *preputium*, which covers the *glans*, to which 'tis ty'd with the bridle: then a membrane which ingirts its ligaments, then the vessels, 2 erector muscles, 2 ejaculators, then 2 ligaments with *urethra*, 'tis spungy, not continued to the bladder-neck, but annexed.

Next *inguina notanda*, in which the crural vein and artery, with nerves descending to the thigh, whereon rests the production of the *peritoneum*, drawn through holes of the oblique tendons and transverse muscles; over this the *cremaster* carried athwart through the groin to the cord, descends to the testicle, &c. above the bending are kernels lying close the *peritoneum's* process, below, near the vessels

vessels are other, bordering upon vessels; within the process are contain'd *vas spermatic.* carrying seminal matter *ad testem*, and another returning from above, carrying it from it to the seed bladder; within the process descends *ilium*, *peritoneum's* inward coat being relaxt, if broken to the cod.

Scrotum is the stones case; they are oval, glandulous, for making seed; made 1. of three proper membranes, for each hath two common, *cutis* and *dartos*; the first proper is *erythroides*, from *cremaster* expanded; the second the production of *peritoneum*, infolds them; the third call'd *nervea*, immediately infolds them; on them orethwart lies *epididymis*, like a silk-worm, to the end whereof cleaves *vas spermatic. deferens*, and *parasta cirsoide*, entring *testis* substance, and emptying the seed matter; from the other rises *vas ejaculatorium*.

Womens *genitals* are external, internal: these prepare seed, or its matter, to speak with *Aristotle*, and afford place to conception; these are visible, and must be contemplated before dissected; therefore let us stay a while in the Porch, before we enter into the Sacred Cell; where is, 1. *pubes*: 2. the passage shut with *valves*, (whence *vulva*) call'd *cunnius*; the *valves* are term'd *labra cunni*; which drawn aside the *nymphs* appear, solid, membranous excrescences, broader a top; where occurs a
fleshy

fleshy tubercle, call'd *clitoris*; the *nymphs* distracted we see *carunculae myrtiformes*, whereof 2 are lateral, 3d below towards *anus*; the 4th plac'd always at the end of *urethra*. These appear in those alive; thrust your finger into a Womans sheath, you'll feel it rough, like an Oxes coat; if you go higher, you'll find the inward orifice of the womb; all that space is call'd *collum uteri*.

In Virgins, after the *nymphs*, occur a membrane call'd *Hymen*, drawn over the orifice, pierc'd with a little hole; if this be found, *carunculae myrtiformes* are not. If it be wanting, the *caruncles* are so tumid, they fill the orifice, that they scarce admit a little finger without pain.

To shew the inward parts, the parts of the *podex* must be cut up too, then the *symphysis* of *ossa pubis* detected, the gristle plac'd between them, must be divided with a sharp knife.

These parts may be divided into those which compose the womb, and preparers of seminal matter; these differ from Mens only, that they are not so straightly or windingly united, as to make *parastata cirsoide*. One part of these is caried *ad testes*, the other *ad fundum uteri*, a 3d creeps *ad principium vaginae*. *Testes* are within, unlike mens, want *Epididymis*; but one coat, soft, made of

little bladders, wherein is a serous humor, will spurt in the face of the dissector, if he beware not.

These observ'd, view the womb with its external parts; in its upper part rise the horns and four ligaments, two broad from the *peritoneum*; in Virgins like Batts wings, they hold the womb from falling: two round and longish, hollow, from near the horns; when they come to *clytoris*, they spread like a Goose foot.

The body of the womb is fleshy, spongy, as thick as a mans finger; cloath'd with 2 membranes, 'tis sited in *imo hypogastrio*, in the middle between *intestinum rectum*, and *vesica*; 'tis like a small cupping-glass, sometimes divided into two cavities, whence some bring two or three children at a birth. The cavity in Virgins so very small, as to contain about a little bean, in mothers larger.

The *Chest*, the mansion of the vitals, bounded below by *costæ nothæ*, and *diaphragm.* above by *claviculæ*, its whole amplitude is form'd of all the ribs, *vertebræ spinæ*, and *sternon.* The neck comprehending the beginning of some parts which belong to this, is refer'd to it, rather than the head, though its pillar. Its common containing parts are the same with the belly; only the fat and fleshy membrane, receive the paps in both sexes; in Women
for

for ornament, and to nourish the child, they are made of heaps of cluster'd kernels, confusedly dispos'd upon their peculiar membrane; the biggest is in the middle, under the teat, made of contracted skin, and boar'd with a little hole, rough outwardly for the childs hold. Its proper containing parts are bony, musculous, of which in their places, or membranous,

As, 1. *Pleura*, includes all the internal parts giving them membranes like the *peritoneum*: is firmly join'd to the bony parts and midrif; double, which in swellings separate; reflex'd on both sides the back, and rising to *sternum*, 'tis redoubled, and frames.

2. *Mediastinum*, which separates the lungs and breast into two parts, and is fastned to the *claves* and midrif, and by help of the *pericardium*, holds the heart suspended, and binds the Midrif.

3. *Pericardium*, the hearts case, containing water to moisten it.

Next *Diaphragma*, parts *thorax*, from *abdomen*, ty'd to all the bastard ribs, [the chief instrument of free breathing where 'tis, for Birds breathe without it,] and to two true ones, and to the sword-like gristle, and so sends two fleshy *apophyses* to the loins utmost *vertebræ*; its compass made of musculous flesh, its centre a sinewy membrane, to bear the beating

of the hearts *cone*, and bear up the liver, fastened to it, and drawn up within the chest by the intervening *mediastinum*. 'Tis cavous towards *abdomen*, gibbous within *thorax*; it has *venæ & arteriæ phrenicæ*, from *cava* and *aorta*.

Two famous nerves rising between the 4th and 5th *vertebræ colli*, are inserted into its centre; it hath perpetual motion by right of the heart, if not equal. *Hippocrates* calls it the bellies fan.

The *Lights* are instruments of breath and voice; conflatèd therefore, of a soft, spongy substance, white without, reddish within; interwoven with *bronchia*, and pipes of *vena arterios.* and *arteria venos.* so as *bronchia* are plac'd between the veins and arteries; sited within *thorax*, and with the heart, fill its cavities, while dilated to fetch breath; but leave it empty while contracted, to expel the sooty or superfluous spirits; these motions are perpetual all our life-time; they are divided into two parts, and each into sundry *lobes*, that one hurt the other may remain sound: out of its place you'll see each part is like an Oxes hoof, cloven and gibbous outward, cavous where it touches the back; girt with a thin, porous membrane to disburthen it self, in suffocations, into the *thorax*, and resuck filth there stagnating. 'Tis nourish'd after another

ther way than other parts, for it borrows blood from the heart, whence it hath its vessels, and not from *cava*; so those Physicians are deceiv'd who, in its diseases, say 'tis oppress'd by a flux of blood, which innumerable veins shed into it; it can't receive humors from the head unless with cough, which ceasing, it suffers only from the heart blood.

The *Heart*, the chief and most noble *viscus*, the microcosmical monarch; *fons nectaris vivifici*; *primum vivens, ultimum moriens*: a fleshy strong substance, interwoven with all sorts of *fibres*; and lest it should become dry, being the seat of heat, 'tis moistned about with fat and *serum*, sit'd in the middle of *thorax*; 'tis like a Pine Apple; the broad end call'd the *basis*, receiving four vessels, *vena cav. ven. arterios. aort. arter. venos.* in this are hollow cases plac'd by the vessels, that carry blood to the heart, call'd *auriculæ cordis*. In aged the right is larger, in infants *è contra*. The other end's call'd *conus*; the veins and arteries upon the *superficies*, seem for repairing the fat.

Before we proceed to the inner structure of the heart, we are to consider how 'tis moved; for its action is motion, or pulsation; for the blood it receives, it expels by beating: therefore there are two parts of the hearts motion, *systole* and *diastole*, i. contraction.

traction and *dilatation* when it receives 'tis dilated, when it expels 'tis contracted; between each motion there is a pause, call'd *perisystole*: How these motions are made 'tis doubtful; rejecting other opinions, *Riolan* layes down his: 'Tis probable the heart being widened, cannot receive, unless the dilatation be made, by the base being pull'd back towards the *cone*; that the vessels may pour out blood, and the heart draw it to it. In *systole* the heart is contracted, and the blood received is thrust out; then the heart becomes narrower, and longer; and because 'tis shut up in *pericardio*, which cleaves roundly to the finewy centre of *diaphragma*, it smites it with its *cone*; and with its *basis* and *aorta* hanging out, it smites the breast, at the same instant that it is extended and lengthned.

This perpetual motion of the heart, though it depend upon an inbred faculty as to its production, yet it cannot persevere; save by the pulse of blood, with which it frames the vital: But if in every pulse it admit one drop or two, which it casts into *aorta*, and in an hours space it beat 2000 times, 'tis necessary a great part, or all the blood pass by the heart within 12 or 15 hours. But this quantity may amount to 15 or 20 l. of blood, which is all contain'd in the vessels, *ergo*, all the blood must needs be revolv'd by the heart twice or thrice

thrice within 24 hours, as the hearts motion is quicker or slower.

But that this Circulation might be performed with greater commodity and facility, our immortal Dr. *Harvy*, Author of this motion, will have the blood to be carried through the lungs, from the right to the left ventricle of the heart, repudiating the tradition through the *septum cordis*, and that the whole within an hour or two is revolv'd by the heart and whole body; but this way *Riolan* allow'd not of.

Having explained the Circulation, the heart must be open'd; you'll find it divided into two ventricles by *septum medium*; the right wider, softer, the left harder, narrower; defended with a thicker wall, and reacheth to *conus*, the right receives *cava*, and *arteriosf. cav.* pours blood into *cor*; *arteriosf.* recarries all or part to *pulmo*; to the orifices of *cava* are join'd three pointed *valves* to hinder the bloods regrefs; *Arterios's* orifice is compass'd with three *valves*, like *sigma's* to resist its reflux.

The left ventricle receives *aorta*, and *arteria venosf.* this, say some, carries blood from *pulmo*, to the hearts left ventricle, or air prepar'd in *pulmo* to the same, recarrying fuliginous vapors, which many allow not. *Arteria venosf.* hath in its orifice but two tricuspid

valves. *Aorta* recarries arterial blood out of the left ventricle; its orifice is obstructed with three *sigmoid valves*, which hinder blood from returning.

Now of the vessels, *viz. veins, arteries, nerves*, contain'd within the chest; there are a few words to be writ of the other part of the *vena cava's* trunk; for the whole has been abundantly explain'd in the lower belly: you shall then observe the trunk piercing the midriff, receives the hepatic branch that rises from the top of the liver, carries blood into *cava*, and from this oblique insertion to the opening of the trunk in the hearts right ventricle, there is a distance of two fingers breadth: this same opening and cleaving *cava* to the hearts right ventricle, is contain'd and seen within the *pericardium*, which when the trunk hath pass'd, ascends the *claves*; then seek *vena azigos*, nourishing the ribs; then the *entercostal*, on each side one rises from *cava's* trunk ascending; if *azygos* branches reach not to the upper ribs.

When the trunk comes to *claves*, it produces the double *mammaria*, internal and external, both carried to the dugs along *sternon*; but the inward, and greater, transmitting a *scion*, by a hole of *sternon*, to the dugs, runs to the right muscle, to join to *Epigastrica*.

In separating *cava*, you shall observe a
great

great glandule underneath, in the throat placed under the *claves* like a cushion, to sustain their branches, call'd *thymus*, soft in young ones, and *calves*, and is deliciously eaten with *pancreas*.

From the *subclavian* branch, proceed four remarkable ones.

1. *Anterior cervicalis*, spread over the *mastoid* muscles, ascends to the chin, bedewing the necks foreparts.

2. *Jugular. intern.* ampler than the extern, which ascends the neck under the *mastoid* muscle, and about its middle is cut into three branches, the thicker and greater going to the *vertebrae*, enters the brain, by a hole near the *styloid apophyse*, and join'd to the side-pipes of the *meninges*, pours out its blood, and goes no farther.

The 2d branch creeps along the necks sides, and is distributed under the jaw. The 3d goes to the tongue, and puts forth the *ranulars*, which open'd in diseases of the head, wonderfully help. A fingers breadth distant from this, is *jugularis externa*, and obliquely creeping under the *clavicle*, below it emits two *scions*, whereof one goes strait to *muscul. deltois* under *acromium*, and unites to *ven. cephalic.* the other rises to the heads lateral parts, where parted in two it goes to *maxilla's* corners, part distributed upon the

jaws, and all parts subject thereto: t'other portion transfer'd behind the ears, is dispersed upon *frons* and *occiput*, upon the temples by a plentiful issue.

Now because the arteries and veins are always contiguous, with the same candor you shall search out the trunk of *aorta* ascending; skipping out of the hearts left ventricle, immediately in its rising produces two coronary arteries, girding the heart like a crown; you cannot see these exactly, unless you look into the open'd *aorta* by the hearts left ventricle; if but one, you'll find a little *valve* at its orifice, as in *vena coronaria*.

Aorta's trunk marching a little further, is parted without the *pericardium*, into two branches; one call'd *ascendens*, the other *descendens*. The first is split in three, producing three arteries from the same place; the right ascending to *claves*, makes *subclavia dextra*.

The other two rise on the left side, whereof the first is call'd *carotis sinistra*, bending upward; the second call'd *subclavia sinistra*, then *axillaris*, coming to the arm-pits, and nigh *acromium*, emits *cervicalis*.

The right subclavian artery surmounting *claves*, produces *carotis dextra*, which nigh the corner of the lower jaw, is divided into two notable branches, intern and extern, they're call'd

coll'd *carotides*, because if press'd, a *caros* seizes upon a man, and he loses his voice.

To find out the ascent of these, and their penetrating the brain by holes of the skull, put into the various divisions of this artery, a flexible small wire knob'd at the end; which may be done and seen by the vulgar administration, beginning at the upper part, not lower, as *Varolius* does, and in the neck put a probe into the *carotide*.

Aorta's trunk twisted on the left part, and bent downward, is prop'd by the *vertebræ*, and in its progress to the *os sacrum*, on each side, produces so many little arteries as there are *vertebræ*; and there's no *azygos*, or lone artery found, to accompany the *azygos* or lone vein, but such little arteries supply its place; within the breast, they may be call'd *intercostal*, in the belly *lumbar arteries*; they insinuate themselves in *spina medullam*, by holes in *vertebris*; which may be prov'd from *Hippocrates ix coac. Gal. l. 4. de loc aff.* and from my ever honored Master, *Dr. Riolan*

Eight famous nerves are to be observ'd in the breast, 2, *diaphragmatic*, rising from between 4, and 5 *vertebræ cervicis*; from that thicker cervic nerve passing to the arm, within the doublings of *mediastinum*, they descend to the nervous centre of the *diaphragm*. 2. *recurrent*, and 2 *stomachic*, branches of a nerve of the

the 6th conjugation, whose trunk you shall search for in the neck, nigh the inward jugular, by the *mastoid apophysis*, where 'tis cleft into two branches, one whereof is spread into the upper muscles of the neck; the other plac'd between the intern jugular, and *carotis* descends to *claves*, where its cut into two branches recurrent and stomachic. The reflexion of the left recurrent is found about the bending of *aorta* descending, and easily before the *pericardium* be open'd, you'll find the reflexion of the right, about the right subclavian artery. *Riolan* saw and demonstrated Dogs to live, and run these being cut away, but without voice; and as bound, they take it away, so loos'd 'tis restor'd; therefore they serve for voice, because they run upward, that they may be inserted in the heads of the *musculi laryngis, linguæ, os hyois*, which rise from the lower parts. Search for the stomachic nerves below the heart about the *vertebræ*, hid within the folding of *mediastinum*, from these you'll see 10, or 12 branches drawn into the lungs: and from little branches of each stomachic wound together, is made that admirable texture of nerves in the upper orifice of the stomach. After creeping along the back-parts of the stomach, they are join'd to the *costal* nigh the *spine* between the reins, making the texture of nerves, from
which

which all nerves, distributed in the parts of the lower belly are drawn.

All Anatomists derive the *costal* nerve from the 6th pair, when as it rises from the same point of the brain with the 6th pair. This going out of the scull is streighthen'd by a *ganglion* about it, and undivided descends upon the neck; when it comes to the three last *vertebræ*, 'tis environ'd with another *ganglion*, and made thicker, by an addition of three little nerves; and falling within the breast, in its progress about the *spine* under *pleura*, 'tis augmented by accession of other little nerves coming from the dorsal marrow, piercing *diaphragma*, 'tis join'd to the stomachics, to make the netlike texture of nerves between the reins. So much for the Chest.

The *Head*, of a spherical figure, mean bigness, is divided into the hairy and smooth part, while undivided; the first call'd the face, whereto belongs the forehead; the hairy retains the name of head. Again, the head is divided into 2 direct parts, and lateral; the first are call'd *synciput*, which ascends forwards from the beginning of the hair 4 or 5 fingers breadth to *vertex*, then 2 fingers space, and as much after the vertical point, 'tis call'd *vertex*; the hinder is call'd *occiput*, the lateral *tempora*, because they shew the time of a Mans age, by their hollownes, baldness, hoari-

hoariness ; 'tis made of many parts, containing, and contained ; the containing are membranous, bony ; contained are *cerebrum*, *cerebellum*, 4 roots of spinal marrow, and their particles included in their cavities.

The first occurs is *cutis pilosa*, which has its *cuticula* ; under these lies *membran. carnos.* the seminary of hairs ; which if fleshy, makes the skin moveable, because 'tis fixt to't without any fat between. The *pericranium* follows, immediately compassing the skull ; produc'd from *crassa meninx*, in children passing by the middle sutures, at which time they are not firmly intertext saw-like. Besides this, there is scrap't from the skull a *periostion*, as in other bones ; therefore 'tis not the skulls *periostion*, but by a great providence of nature, is spread over the skull, to hold fast the muscles rising from it ; such are the temporal, the strongest in all the body, with which its fellow binds and lifts up the jaw, and bears greates burdens in some, than others acting together : farther it strengthens, and strictly comprehends the muscles of the hinder part of the head ; descending to the eyes and stretch'd under the eye-lids, it makes the conjunctive *tunic*. These being separated, the skull appears, of which in the doctrine of bones.

The skull saw'd asunder, *f. a.* and the covering

vering detracted, the brain appears, proportion'd to the scull containing it; for if the brain gives figure to the bones when soft, the scull follows its bulk great or little. If it keep not the natural figure and bigness of the head, its conformation is naught, and so sick and hurtful to the inward senses principal and subservient in their actions. 'Tis of a soft, waxy, white substance, which because, like a kernel, it sucks up humidities, 'tis call'd the great *Glandule* by divine *Hippocrates*; 'tis divided into two parts; that which is 3 times greater, retains the name *brain*; the lesser in the hinder part, the *little brain*; both envelop'd with common coverings, call'd *meninges*; the first is *crassa*; the 2d. *tenuis meninx*, call'd *matres* by the *Arabs*, because from these they believ'd the other membranes of the body were propagated. The first knit to the sutures, suspends the brains whole bulk; these connexions are seen, when the Sculls covering is taken away; in this are observ'd innumerable vessels, wherewith 'tis besprinkled; they are rather arterial, produced from *rete mirabile*; stretch'd from below upward to the *meninx's* pipes, where they carry their blood; therefore 'tis this tunic beats, rather than the brains substance.

Now its pipes are 4. 2 lateral, which run along the sides of the *lamhdoid suture*, to receive

ceive the blood from the internal *jugulars* and *cervicals*, or by them, according to the doctrine of circulation, that blood may re-flow to the heart. From the union of these 2 pipes, is form'd a third longitudinal, drawn directly as far as the nostrils. From meeting of the 3 below, a 4th rises, entering the brains substance between *cerebrum* and *cerebel*. not shut up in the folding of *dura mater*, but 'tis a great vein, so call'd by *Galen*, which descending into the former ventricles, makes *plexus choroides*, dispers'd through all the ventricles to the brains *basis*. The longitudinal pipe deserves rather the name *torcular*, than the 4th, because from thence, by innumerable little veins on every part through windings of the brain, the blood is distributed to the lower parts.

Now this *crassa meninx* divides the brain in 2 parts to the middle, nigh *corpus callosum*; this diversity is call'd *falx*, and doubled on both sides, severs the brain from *cerebellum*.

The thin *meninx* follows, immediately inclosing the brain, insinuated into its windings; for its substance is without, in a wonderful manner, full of deep windings; for the levity and traduction of little arteries, which disperse the blood here and there; therefore *Pelops*, *Galen's* Master, thought the beginning of the veins was there. A

A small part of the *corpus callosum* being cut away, the 2 fore and upper ventricles appear; which in the the lower part toward the brains *basis* are larger, and thence rise upward.

A thin partition, form'd of the thin *meninx* doubled, call'd *septum lucidum, quia transparent* divide these.

Above the fore ventricles is a tripartite body, call'd *corpus psaloides*, sustain'd by three pillars, whereof two are lateral, revolv'd about those eminences, which *Galen* calls chambers of the optic nerves. The fore one is plac'd between the 2 ventricles.

From the concourse of the ventricles between 2 great hillocks aforefoid, is form'd a pipe; which makes the 3d ventricle.

In the sides of this the circumjacent eminences form, some *nates*, some *testes*; and from that pipe the hole going into the 4th ventricle, is call'd *anus*.

In the upper part of this pipe lies the *glandule conarium*, and over this pipe, and 4th ventricle, is stretch'd a thin membrane, begotten of *meninx*, over which runs *plexus choiroides*, diffus'd through the fore ventricles.

In the entrance of the 4th ventricle, is plac'd a solid portion of the brain, representing a River Crab's tail unshell'd, call'd *vermiformis processus*, it opens and shuts the passage
to

to the 4th ventricle. This is plac'd in the *cerebel*, which contains 2 other hinder portions of the spinal marrow ; as the brain, the 2 other foremost, which with *Galen* may be call'd the beds of the optic nerves.

The *cerebel* pull'd away, you will see how it contains the 4th ventricle in its bosom, between the 2 hinder roots of the spinal marrow, and gives origin to 7 or 8 pair of nerves. except the optic.

If you gently pull upward the forepart of the brain to its *basis*, you shall observe the optic nerves, and the nerves for motion, and then *choana*, i. the funnel, distilling *serum* upon *glandula pituitaria*, and 4 pipes distilling *serum* to the palate and jaws ; then you shall consider the order of the other nerves, which are design'd in these two Verses :

*Optica prima, oculos movet altera, tertia gustat,
Quartaque quinta audit, sexta est vaga, septima
(linguae.*

Then under *dura meninx*, in the brains *basis*, about the circuit of *sella sphenoidis*, is *rete mirabile* of arteries interwoven, form'd of the double *carotide*.

The Eye's organically made of many parts, internal and external ; these are the eye-lids. their membrane makes the conjunctive tunic, which

which fixt to the brim of the socket, binds the eye in its hole. Their extremities are bound with a welt, call'd *tarsus*, whereto are fastned the hairs born with us, and keep the same length they had at our birth; call'd *cilia*; their angular meetings, *corners*; by the greater are 2 little holes, call'd *puncta lachrymalia*; and to receive tears, &c. *glandula lachrymalis*, thrust into the little bones hole.

These being observ'd, the eye-lids are to be cut away, and the orbicular adhesion of the conjunctive to the eye, that the eye may come to sight; which is compacted and globated of fat about it to fill up inequalities, and for the eyes mobility, 6 muscles for motion, tunics, humors, veins, arteries, and nerves.

Before the fat be remov'd, view 2 *glandes*: 1. *glandul. lachrymal.* sited within the little bone underneath; then the other unlike this sited in the other corner; the fat taken away, 6 muscles occur, of which after, then pluck out the eye; whereof 2 true orbicular tunics; the other are imperfect, and before you dissect the *cornea*, take away the *aponeuroses* of the muscles of the eye.

Then you'll see *uvea*, and its windowy hole, which makes *pupilla*, whose outward circuit is call'd *Iris*; its circumference is adorn'd with little ciliar fibres, stretch'd on the chrystal-

chryſtalline humor, to keep it in its place. Pour out the humors, and you'll find the chryſtalline drown'd in the glaſſy, then the inner *ſuperficies* of *uveæ tunic.* appears.

In the eye are contain'd 3 humors, aqueous, chryſtal, glaſſy.

The veins and arteries accompanying the optic and motory nerve to the eye, are eaſier noted within the brain.

The *Ear*, instrument of hearing, is divided into external, call'd *auricula*, the cartilaginous part.

The inner ear ſhut up in *os petroſ.* is wholly bony, divided into 3 cavities, the firſt is *concha*, bounded with *tympanum*, plac'd at the extremity of the firſt paſſage; it hath a cord drawn tranſverſly, as in a military drum, then obſerve 3 little bones, *malleolus*, *incus*, *ſtapes*.

The *Mouths* extremities are call'd lips, below theſe the chin, the ſides are the cheeks. The inner parts ſhall be deſcrib'd in order.

The *Noſe* is divided into 2 cavities, call'd *nares*, parted by a hedge, reaching *os ethmoides*; on theſe depend five griſtles, two lateral, call'd *alæ*, the middle *ſeptum*.

The *Neck* is divided into containing and contain'd parts, firſt common and proper, of which before, and hereafter: yet obſerve kernels plac'd upon *cartilago thyrois*; then little *glandules* plac'd along the progreſs of *jugular*

gular intern. into which the brain disburthens it self; under the lower jaw in the upper and forepart of the neck, are 2 other *glandules*, which often swell, and in them is bred *struma*.

Tanfilæ at the tongues root, call'd *Antia-des*, *Paristhmia*; *Ulpian* calls their pain and swelling *Antiagri*.

The *Gums* are flesh fastned about the teeth, which cover the holes within and without.

The *Pallate* is the mouths vault, a very thin bone cloath'd with nervous rough skin, because it wants a *periostium*.

At the end of the *palate*, depends *uvula*, a fleshy particle; it hinders the reflux of liquids to the nostrils, and purifies their going to the *larynx*; whence those that have none are hoarse, part of their drink flows back to the nostrils, and from impure air a consumption follows.

Isthmus is a space between *larynx* and *pharynx*, seated in the jaws, like *arēla terra* between 2 seas, call'd *Isthmus*.

The *Tongue* is a carnosus fungous substance, divided into 2 parts; so parted, though strictly connex'd, that one side may have the *pal-sie*, the other free; one discolour'd, the other not. Propt by the *basis* of *os hyois*, and ty'd with a strong band, sited very opportunely in
the

the mouth and jaws, that discover diseases hid in the belly, breast and head ; for it is tainted and tinctur'd with their moist, fuliginous excrements. and is of the colour of the predominant humor, so it ought to communicate with those parts ; and as urine is inspected in all diseases, so is the tongue, *Hipp. l. 6. Epid. sect. 3. text 14.* for it signifies Location, which *Galen* hath confirm'd, *Comment. ad hunc locum.* Its pointed end, which smites the teeth, is call'd *proglossis* ; its broad part hid in the throat, *basis* ; that it may not wander, 'tis retain'd by a band underneath, call'd *frænum*, hath veins from the jugular, arteries from *carotis* ; under the tongue they are call'd *hypoglottides*, or *venæ ranulæ.* and the 2 glands there *ranulares* ; nerves for taste and motion, and muscles, of which hereafter.

Larynx is the head of the wind pipe, and the pipe of breathing air in and out, seated in the forepart of the neck, call'd *guttur* ; 'tis made of 5 gristles, the 2 greatest make its body : 1. *thyroides.* 2. *cricoides* ; these 2 are ampler and harder. 3. *arytanoides*, plac'd upon *cricoides*, and shuts *larynx* ; within is 4. *glottis*, that nothing solid or liquid may fall into it, it hath a cover, call'd *epiglottis*, always elevated for breathing ; nor is it depress'd, but by weight of liquid and solid aliment sliding down.

Aspera

Aspera arteria, or wind-pipe, is sited in the fore-neck, to draw air to the lungs, and carries out sooty vapors; 'tis made of many semicircular gristles, join'd from one another; imperfect behind, nor fill they the circle, because of the gullet lying beneath.

Oesophagus, or gullet, is the way of meat to the stomach, its beginning is call'd *pharynx*.

Of the Muscles in general before, now in particular, and first of those of the Belly.

All over it are extended musculous fleshes, which join'd, make its carnous covering, *containing and proper*. They are divided into 12 muscles, on each side 6; nam'd partly from their site, and rise, partly from their figure and office, as *obliquus descendens*, &c. of these 10 are ordain'd to force the inner parts, and some to move *os sacrum*, and *iliums* conjunction, the 2 *cremasters* hold up the stones, which are fitly explicated here: *obliquus*, by reason of site and action, and *fibres* is divided into *ascendens*, and *descendens*, *ascend.* and *transverse*, carry a plain and dilate figure like a membrane; their amplitude answers the latitude of half their belly; yet *obliquus descendens* is ampler than *ascendens*, and this than the *transverse*: the right is as long as the space

space from the *xiphoid gristle* to *os pubis*; though they rise from diverse parts, yet the membranous *poneuroses* of the fellow-muscles, are so firmly join'd at *linea alba*, that they seem but 1 muscle.

Now *linea alba* is a parting of the bellies muscles, making a line reaching from the *xiphoid gristle*, by the navel, to *os pubis*. This is more evident, each oblique descending's *aponeurosis* being remov'd, because between the 2 right ones is discern'd a lineal space, fill'd with white fat, taken for *linea alba*: though the bellies muscles are knit to diverse parts, whence they are said to rise, yet they are all inserted *ad lineam albam abdominis*, & *os pubis*; each receives peculiar veins, arteries and nerves. Their action is *common* or *particular*; *common*, when they all act equally to press *abdomen* on every side, neither can they act apart in that motion; *particular*, when fellows, *viz.* *ascendent* or *descendent* act apart; those depress *thorax*, these move *os pubis*, *ilium*, *sacrum*'s joints, without any or very little pressing *abdomen*, because it then ceases; but the bony juncture is quiet, and unmov'd, while *abdomen*'s muscles equally compress and bind the inner parts. The use of *abdomen*'s muscles, is while they are quiet to cover the inner parts, and defend them from outer injuries, to cherish and conserve

serve the inner heat. Now of *abdomen's* muscles in *particular*, and then of those that move *os pubis*, and *sacrum's* juncture.

Obliquus descendens, from 7 or 8 lower ribs, folded in carnous intersections or *fibræ*, like the teeth of 2 combs, with *serratus major's*, fleshy fibres, and sticking to *os ilium's* ribs, and *os pubis*, by a broad *aponeurosis*, ends in *linæ alba*, and, with its fellow, makes one individual tendon.

Obliquus ascendens, from *os pubis*, and *ilium's* rib, and knit to all the false and true ribs brim, as far as the *xiphoid gristle*, ends in *lin. alb.* by a broad tendon.

Rectus is fleshy, from *sternon*, near the *xiphoid gristle*, and extended along the belly, is inserted in *os pubis*, nervous. At *rectus's* end lie 2 *pyramidals*, sometimes wanting, chiefly the right, but supply'd by flesh.

Transversus, from transverse *apophyses* of the loins *vertebræ* fixt to *os ilium*, and false ribs, and passing under *rectus*, by a broad tendon ends in *lin. alb.* strictly united with its fellow; near *pubis*, according to the groin's transverse length is *cremaster*, the stones proper muscle to hold up the testicle, 'tis the extreme part of *obliquus ascendens*, fixt to the fore, low spine of *os ilium*; 'tis distinguished by its redder and thinner flesh, and fingers breadths distance; it involves *peritoneum's*

production to the testicle, and makes *erythroid*, draws back, and suspends the testicle. The stones common muscle is *dartos*, a continuation of the fleshy membrane, it suspends both stones. *Os ilium's* joint with *os sacrum*, is mov'd forward & backward in venereal congress; *recti & obliqui descend.* move this juncture forward, *thorax* being quiet, and thighs unmov'd, unless they follow *os ilium's* motion; *sacer* and *semispinatus*, from the backs upper part, move it backward.

The eye-brows muscles 1. *Erectors*, from the foreheads upper part, and spread on its bone ends at the brows, sever'd above the nose. 2, *Corrugator*, which is no other than each eye-lids orbicular muscle.

The eye-lid's moved by 4. *rectus*, belonging to the upper lid, rising at the eyes inner cavity, and spread over the muscle that lifts it, reaches to the lid. 2. *orbicularis ciliaris*, encompassing each lid; one drawn under the lids from *orbit's* circuit. 3d. of a fingers breadth compasses the sockets surface, plac'd under each lid, and touching the brow, strictly binding both lids, elevates the upper, and depresses the brow.

The eye hath 2. obliques, *trocleator*, from orbits cavity produces a thin tendon, which, drawn through a *transverse gristle* fit to the bone, by and beneath *glandula lachrymalis*, is spread

spread over the eye. *obliquus min.* drawn externally by the great corner rowl'd athwart the eyes globe, comes to the great oblique's tendon; that the *aponeuroses* of both oblique muscles might meet to pull back, and fix the eye toward the nose; that of both eyes act of seeing might be made one *pyramidal* line to the visible object. 4. streight. 1. *Elevator*. 2. *Depressor*. 2. *Adductor*, or *Leclorius*, sited at the great corner. 4. *Abductor*, *indignatorius*, at the less corner; these from *orbit's* cavity, and broad *aponeurosis*, are inserted in *cornea* under *conjunctiva*.

The Ears muscles, are rather marks of muscles, than true ones, as in brutes.

The Noses common muscle is an upper part of *orbicular* compassing the lips, it depresses it when the upper lip's drawn down; one *elevator* on each side from the space between the brows stretcht to the nostrils bone, carry'd to their battlement, when these act, the nose is wrinkled; within the nostrils, under the succingent coat, lurks *constrictor*, sticking to the inner parts as far as the lips.

The upper lips *elevator*, rising from the jaws cavity, beneath the cheek bone, descends obliquely to it. Its *depressor's* brought into it from the lower jaws middle. The lower lips *elevator* from the cheek bones lower part, ends side-ways in it: its *depressor* from the

chin, is inserted to its middle. Its common ones are the lateral, which draw them sideways.

1. *Zigomaticus*, longish and thin, from *zìgoma*, ends in the joining of each lip.

2. *Bucco*, because it stirs the cheeks, while it drives the meat this way and that way, from the top of the gums, or bones there, near the farthest grinders ends in each lip; it may be call'd *spincter*, or *pilorus*,

The lower jaws muscles are each side six; *elevator* from the temples whole cavity, carried under *os zygoma*, and inserted in the jaws end, by a nervous strong tendon; its adjutor *pterygoidens* intern. from the hollow of *pterygoid's apophysis*, ends at the jaws corner; *Galen* calls it *masseter internus*, *digastricus* and *latus* depress it. *Digastricus*, nervous in the middle, and carnos at ends, springs from *apophysis styloides*, and bent in the middle about *styloceratois*, is inserted in the chin under the jaws bending: this rising from *sternon's* upper part *clavicula*, and *acromium*, cleaves firmly to the jaws *basis*, in folding the neck and whole face, by which adhesion 'tis said to draw the jaw down. *Pterygoidens* extern. forces it forward; *Masseter* turns it here and there, and lifts it up; in its origine 'tis twice headed, one of which rises from *os zygoma*, the other beneath it; each being
 furnish'd

furnish'd with fibres, crossing one another, is inserted into the jaws corner, it may easily be divided into two.

Os hyois has muscles as well as ligaments by which 'tis suspended that it might be moved with *lingua* and *larynx*, so its muscles are common to both; it hath 5 on each side, *geniobyoidens*, from the inner chin inserted in its *basis*, elevates it; *mylobyoidens* underneath assists this, from the inner jaw where are the grinders, reaching the bones *basis*; *sternobyoidens*, from *sternon*'s top, stretcht to the weastand, inserted in the bones *basis*, draws it down; *stylocerathyoidens*, from the styloid *apophysis* is carried into its horns, *Genioglossus*, from the inner chin, ends in the tongues root and moves it forward; *basioglossus*, from *os hyoid*'s *basis*, carried to its root, moves it back; *styloglossus*, from *apophysis styloid*, to almost its middle, draws it side-way.

Larynx is drawn upward, by *hyothyroidens*, rising from *hyois*'s *basis*, is inserted in *thyrois*'s, outer and middle part. *Bronchus*, from *sternon*'s inner part, and covering the wind-pipe, ascends *thyrois*'s *basis*, pulls it down. The gristles *thyrois* and *arytenois* are only moved, by muscles from *cricois*; *Grycothyroidens anticus* from *cricois*'s outer forepart, ends innerly in *thyrois*'s sides, and dilates it; *cricothyroidens lateralis*, from *cricois*'s lateral part inserted

outerly in *thyrois's* sides contracts it. *Thyro-arytænoideus*, from *cricois* and *thyrois*, being plac'd between them, opens *arytenois*; 'tis shut by one call'd *arytænoideus*, compassing it like the *spindler*, and with its *basis* binds *glottis*, in tuning the voice. *Epiglottis* hath no erecting and depressing muscles, as in brutes.

Pharynx hath 7 muscles, 3 fellows. and 1 *sine pari.* i. e. *Oesophagus*. 1. *Sphenopharingæus*, from *sphenois's* point, near *stylois*, bending downwards in the jaws sides, to draw *Pharynx* up. 2. *Cephalopharingæus*, from that part where the head's joined to the neck, descending, spreads to the *Pharynx*, and seems to make its very coat. 3. *Stylopharingæus*, from *styloid. apophysis*, is inserted *Pharynx* side-way to dilate it, *Oesophagus* binds it; this from one side of *thyrois* compassing round *oesophagus's* hinder part, is implanted in *thyrois* other side; or outwardly fixt to both sides, binds *oesophagus's* beginning like the *spindler*.

Uvula hath two muscles on each side :

1. *Pterygstaphylinus externus*, from the upper jaw, under the last grinder, ends in a thin tendon, passing through a chink, ingraven in *pterygois's* upper seat, and there turned back as through a pulley, is inserted in *uvula's* sides.

2. *Pterysta.*

2. *Pterygoidius internus*, from the lower part of *pterygois's* inner wing, hath a peculiar moveable gristle for its origine, and ascending the length of *pterygois's* inner wing, ends at *uvula*. The heads common muscles move it, and the neck; the proper it alone; they are 14, on each side 7 in the hinder part, on the fore-part one; *Mastoidens*, from *sternon's* top, and *clavicula's* middle, is obliquely inserted in the *mastoid apophysis*, bends; it 6 extend it 2 large: 1. *splenius*, from the lower spines of the 5 upper *vertebrae's* of the back, and 4 of the neck is inserted in *occiput*.

Complexus assists this, from the said *vertebrae's transverse apophyses*, ends in *occipite*. 4 small 1. *recti majores*, from the 2d spondyl's spine are inserted in *occiput*: under these 2 less streight, from the hinder part of the first spondyl end in *occipite*; *obliqu. major.* from the 2d *vertebrae's* point, come to the firsts *transverse apophyses*; from the same place the less are carried *ad occiput*.

The Neck is bent by 1. *longus* sited under *oesophagus*, from the body of the backs 3d *vertebrae*, and ascending laterally annex to all the *vertebrae's* bodies, ends in the fore-part of the first. *Scalenus* from *thorax's* first rib, is innerly inserted by oblique fibres, into all the necks *transverse apophyses*: 2 extend it, 1. *spinatus*, from the chests 7 upper *vertebrae's* root

of the neck, is inserted into the spine of the necks 2d *vertebra*. 2. *transversarius*, from *transverse apophyses* of the backs 6 upper *vertebræ*, is planted outerly into all the necks *transverse processus*.

Levator proprius, from *transverse apophyses* of the upper neck's 2d, 3d, 4th *vertebræ*, ends in *scapula*'s upper corner, and elevates it. *Trapezius ab occipite*, a top of 5 *spine colli* and 6 or 9 of *thorax*'s upper, is inserted in *scapula*'s *basis*, and *spina*, as far as *acromium*; moves it diversly, according to the origine and direction of *fibres*. *Serratus min.* from 4 upper *Ribs*, ends in *coracoides*, draws it forward, *Rhomboides*, from 3 spines of the necks lower *vertebræ*, and *thorax*'s 3 upper spines, inserted into its extern *basis*, draws it back; though by its weight it return to its natural site: yet a part of *latissimus* running to the arm, by a loop, cleaves to *scapula*'s lower corner, and is said to draw it downward.

The Arms muscles are 9, 1 *deltoides*, from *media clavicula*, *acromio*, *scapula*'s whole spine is carried to the arms middle. *Supraspinatus* thrust into the cavity above *scapula*'s spine, and convey'd under *acromion*, is inserted in the arms neck; these move it up, *Latissimus* from os *sacrum*'s spines, the loins 9 of the back, is inserted in part of the arm, a little below the head. *Rotundus major*, from *scapula*'s

pula's whole lower Rib, ending almost in the arms middle, assists this: these move it down. 5. *Pectoralis*, from the 7th, 6th, 5th true Ribs, *sternon*, and more than half *clavis*, is inserted in the arms middle, by a sharp tendon between *deltoides* and *biceps*. 6. *Coracoideus*, from *apophysis coracoid.* ends almost in the arms middle, these draw forward. 7. *Infraspinatus*, rising in the middle of *rotund. min.* and *spina*, ends in the arms neck, which it obvolves. 8. *Rotundus min.* from that hollow seen under *scapula's* lowest Rib, ends in the arms neck. 9. *Subscapularis*, possesses *scapula's* hollow and inner part, and is carried to the neck; these move back.

Biceps from a double origine, one from the extremity of *glenoid's* cavity, is convey'd through the arms clift; the other from *coracoids apophysis*, which, after united, make one tendon, inserted in *radium's intern.* where it bunches. *Brachæus intern.* under *biceps*, from *os brachii's* middle, to which it cleaves, ends between *radius* and *cubitus*, where they are fastned together: these sit in the arms inner part bend the cubit; 'tis extended by 1. *longus*, from the *scapula's* lower Rib, nigh the neck, where it has a peculiar *sinus*, ends in *olecrano*. *Brevis* from the arms hinder *cervix*, ends in *olecrano* too; for the 3d, *Gal. l. 1. administ. anat. c. ult.* recites a fleshy lump, con-

founded with 2 foregoing, and inserted into the same part. *Riolan* calls it *brachius extern.* because spread on the arms outside, 'tis plac'd under the 2 former; there *Galen* acquaints us, that one may accurately separate these 3 by the rectitude of their fibres. 4. *An-goneus*; sited in the bending of the hinder cubit, call'd *ancon*, answers to *popliteus*, rising from the arms lower and hinder part, sited between *radius* and *cubitus*, is inserted by a nervous tendon in cubits side, a thumbs length below *olecranon*; it cleaves sometimes so fast to *brachius externs* fleshy end, that there appears no difference, and then 'tis judg'd to be a part of it extended thither.

Radius is bowed down by 1. *superior pronator rotundus*, from the inner part of the arms inner condyle, ends obliquely, with a membranous tendon, in *radius* nigh the middle. 2. *inferior pronator quadratus*, from cubits lowest part is transversely carried to *radius*'s lowest part, and is inserted in it, being all fleshy; it also knits *ulna* to *radius*, as if it were a ligament: 'tis drawn back by 2 *extern.* 1. *longus supinator*, from the arms point above *condylum externum*, stretcht along *radius*, is inserted in its lower *epiphysis*'s inside, fleshy. 2. *brevis*, from the outside of the inner knob, goes, obliquely *ad medium radium*, and rould about, straitly comprehends it; 2 muscles bend, stretch, and
move

move the wrist side-way, the bender and extender of each side acting together.

1. *Cubiteus intern.* from the inner part of the arms inner knob, stretch'd over *cubitus*, is drawn out aloft to the 4th wrist-bone of the first Rank.

2. *Radieus intern.* of the same origine, stretch'd upon *radius*, is inserted in the *metacarpian* bone, sustaining *index*, these bend it: 2 outer muscles holding the same way extend it.

1. *Radieus intern.* or *bicornis*, from the arms bony point above *condylum*, resting upon *radius*, emits a double *tendon*, one to *os carpi*, lying under *radius*, the other to *os metacarpi* fitted under *index*. This hath its *tendons* included, and separated in peculiar sinews, gristly cases and sheaths; without the wrists annular ligament.

2. *Cubiteus extern.* from the arms outer *apophyses* carried along *cubitus*, inserts its *tendon* in *metacarpium's* 4th bone under the little finger.

In the palm of the hand are two notable muscles call'd *palmar*, 1. *longus*, from the inside the arms knob spreads in *volar* to the first joint of the fingers; in its rise 'tis car-nous, after it's lessen'd to a small *tendon*, which going above the wrists annular ligament, nor included with the other *tendons*, is dila-

dilated into a nervous membrane, so firmly fixt to the skin, for subtile feeling, and firm holding, that it can hardly be tever'd from it.

Besides this, a piece of flesh 4 square of a thumbs breadth, redder than the *thenars*, is found upon the annular ligament, sometimes simple, sometimes cut in two, resembling 2 muscles, and stretch'd and insolded with the *palmar*, seems to rise from *thenar's* Root, and to be carried to the wrists 8th bone, plac'd out of order : its office is to make the hand hollow, and so, with the thumbs muscles, and *hypothenar*, to form *Diogenes's* dish ; it shall be call'd the short *palmar*.

The Interjunctures of the fingers are, bent, extended and mov'd side-way : 2 muscles bend 4 fingers.

1. *Sublimis*, from the inner part of the arms knob, about *carpus* produces 4 tendons, ended at the fingers 2d article, and perforated, to give way to *profundus's* tendons.

2. *Profundus*, from *cubitus* and *radius's* upper parts a little below the joint, and *quadrupartite*, reaches to the fingers 3d article through *sublimis's* tendon's holes. Out of *profundus's* tendons, by *carpus*, arise 4 *lumbri-cals* firmly fixt, and carried to every fingers first joint, where they unite with the *interosseans*. The fingers extensors are common and proper ;

proper; those serve 4 fingers, as *extensor magnus*, or besides extension, cause other motions, as *lumbricals* and *interossei* join'd : these belong only to certain fingers, as *extensor indicis*, and *extensor auricularis*. *Magnus extensor*, from the arms outer knob by *carpus*, is cleft in 4 *tendons*, which end in the two lower joints of each finger.

The fingers are mov'd side-way, which they commonly call *adduci* and *abduci*; adduction is a drawing towards the thumb, abduction from it; this motion is perform'd by the *interossean* muscles, 3 extern, 3 intern, spread in the spaces of *metacarpium's* bones. They rise from their upper parts nigh *carpus*, and in the first joint, with a very small *tendon*, they creep side-way on the fingers 3 bones, to the nails Roots, where, afore and above, the *tendons* joining, they end; therefore *interossei* acting together, strain the fingers stretch'd out, which figure they hold when we swim. Moreover, you shall observe two, as it were outer *interossean*, spread without on *metacarpium's* first and 4th Bone; one's *hypothenar*, proper to the little finger, and may be cut in two; it rises from *carpus's* 3d and 4th bone of the 2d order, and is inserted side-way into the space between the joints of the same finger, to draw it outward; the other belongs to *index*, and lying beneath *anthienar*,

nar, rise from the inner part of the thumbs first bone, and is inserted in *index*'s space between the joints, to draw it to the thumb; whence may be call'd *abductor indicis*. Besides the common extender's *tendon*, it hath a peculiar extensive muscle, which may be call'd *indicator*, which motion we use in shewing; it rises from *cubit*'s middle extern part, inserted in the 2d articulation by a *tendon*; the other *tendon* closes with the greater extensor's *tendon*; there's a proper *extensor* attributed to the little finger, rising from *radius*'s upper part, lying between *cubitus* and *radius*; 'tis with a double *tendon*, planted on the little fingers out-side, but with another *tendon* is mixt with the greater extensor's *tendon*. Mean while you shall note the *lumbrical* muscles, sometimes 3, sometimes 4, seldom 5, which though infolded with *profundus*'s *tendons*, and the constant opinion be they rise from them, yet *Riolan* thinks they rise from *carpus*'s nervous, *orbicular* ligament, that it might have a firm *origine*.

Pollex, the *Thum*, hath peculiar muscles; two long ones extend it, 1. from cubits upper outer side, ascends *radius*, and carried beyond *carpus*, is outerly inserted in the thumbs first and 2d joint, by a double or triple *tendon*; the other from cubits same part, but lower near *carpus*, ends in the thumbs 3d joint. A
muscle

muscle growing from cubits inside, and innerly carried to its first and 2d joint, bends it. 2. move it side-way. 1. *Thenar* from *carpus's* inside, *sub pollice*, is inserted in the thumbs space between the joints, to draw it from the fingers. 2. *Antithenar*, from the external side of *metacarpium's* first bone, sustaining the thumb, ends in its first *phalanx*, and draws it to *index*.

Thorax's proper muscles are such as specially belong to it; the common such as designed to a certain part, yet assist it as auxiliaries; as *scapula's* upper ones: 5. dilate or elevate it. 3. fore, *subclavius*, *ferratus maj. triangularis. seu pectoralis internus*; one hinder, *ferratus superior*, 5th *intercostalis externus*: *subclavius* from *clavicula's* inside near *acromion* carnosus, is inserted in the first Rib nigh *sternon*: *ferratus maj.* from *scapula's* inner basis, reaches to 6 or 7 Ribs, whereof the lower are true, 2 upper false. *Serratus posticus superior*, sited under *romboides*, from the spines of 3 of the necks lower *vertebræ*, and the backs first spine, ends in 3 upper Ribs, sometime 4th. The xi extern *intercostals* hold the place of one muscle, carried obliquely forward from the upper Ribs lower side, to the lower Ribs upper side, to these dilating *thorax*, and *diaphragma*. *Triangularis* from *sternon's* middle, inner part is inserted in the
lower

lower Ribs gristles, to the 2d or 3d false Rib.
 3. Muscles contract *thorax*, 1. *Sacrolumbus*, from *os sacrum*, and the loins spinous *apophyses*, ends in the upper Ribs, bestowing upon each, near their Roots, a double *tendon*, or *tendinous* clasp, inward and outward; therefore serves to depress the Ribs, and erect the spine, when 'tis inclin'd forward, and bowed.
 2. The *xi intern intercostals*, filling the spaces between the Ribs, are reckon'd but one, 'tis carried obliquely from the lower Rib to the upper, it has *fibres* contrary to the extern, cross-wise intersected.
 3. *Serratus posticus inferior*, from the spine of the backs 3d extreme *vertebræ*, and the loins first, ends in 3 or 4 lower Ribs. This is opposite to *serratus posticus superior*, and both by a broad membranous *aponeurosis*, so grow together, that they are as a band to tie and strengthen the spines hinder muscles: others add the *abdomen's* 3 muscles, because to violent expiration more muscles are required.

The *spine* or *loins* are bent by 2, on each side one: 1. *Quadratus*, which *Riolan* derives from the *transverse apophyses* of the backs 2 lower *vertebræ*, and last Rib, that it may, with the oblique descending, and strait ones, stir and move forward *ossa ilium's* whole frame. *Abdomen's* muscles, serving for inspiration, help to bend the loins and whole spine; for
 depress-

depreſſing *thorax*, they bend *ſpina*; if lying upon your buttocks, you would liſt your trunk, or leap up upon your feet without help of your hands: 4 muſcles extend them 2 on each ſide, ſo intolded along *ſpina*, that we muſt either make as many pairs as *vertebræ*, or only one pair of muſcles beſtowing *tendons* to all the *vertebræ*; according to *Galen*, 1. *Semispinatus*, from a nervous origine from all *os ſacrum*'s ſpines, ends in *transverſas apophyſes lumborum*, & *iotius dorſi*. 2. *Sacer*, with a ſharp carnous origine from *os ſacrum*'s hinder parts, ends in Roots of the backs ſpiny *vertebræ*, they are mov'd ſide-way, when thoſe of the other ſide, benders and extenders, act apart.

Of the muſcles of the belly before.

Os ilium & *ſacrum* join'd, are mov'd backward and forward in venereal congreſs for generation; the bellies right and oblique deſcending move it forward, *thorax* reſting, and thighs mov'd, unleſs they follow *offa ilium*'s motion. *Sacer* and *ſemispinatus* riſing from the backs upper part, move it backward; which *Riolan* hath demonſtrated by many Reaſons and Experiments in his *Anthropographia*. *Cremaster* proper to each teſticle, the obliques aſcending ſag end, nigh *os pubis*, whoſe fleſh is redder, thinner, and as it were ſever'd from the ſaid muſcles fleſh, outerly infolding

folding *Peritoneum's* production, is carried with the *seminary* vessels, *ad testiculum*, drawing up, and suspending it. The *common* is *dartos*, a continuation of *membrana carnosa* suspending both *testes*; Women have *cremaster* shorter than Mens, cast upon *Peritoneum's* production.

The *Bladders Neck*, lest the urine should involuntarily flow out, is shut by a round fleshy muscle revolv'd upon *prostate*; made broad it expels it, and by wringing *prostate* in venereal congress, crushes out the seed: Now the *bladders neck* being carnous, performs the office of an inner *sphincter*, and exactly closes the *bladder*.

The *Yard* hath two on each side; *Erector* from *Ischiurus's* inner bunch, and stretcht to the *Yards* ligament, reaches laterally to the middle of its body. *Accelerator* rises not only from *anus's sphincter*, but also from *ischiurus's* inner bunch below the *Yards* ligament, and with its mate spread under *urethra*, is drawn to the *Yards* middle.

The *Clytoris* in Women represents a Mans *Yard*, therefore hath obtain'd muscles alike, though not serving the same office; of which in the Womb.

Anus is shut up by the round *sphincter* muscle, 'tis double, one cutaneous, the other broader, and more carnous, which adheres to
a trans-

a transverse ligament, plac'd between *os ischium's* bunchings, and *coccyx* end. It hath 4 *levators*, 2 broad, rising from *os sacrum* and *ilium*, are inserted in the larger *sphincter*; 2 narrow, one fore from the transverse ligament, the hinder from *coccyx*, and end in't. These 4 lift *anus* bunching out, and almost falling in expelling of hard excrements; the circular shut it, lest the excrements should flow involuntarily, therefore at our will we direct this excretion.

The *Thigh* is extended when we stand, (being perpendicularly put under *ischium*) by 3 muscles, which make *nates*; therefore called by Authors *gloutii*: the greatest and outmost from *coccyx. os sacrum's* spines, more than half *ilium's* Rib, is inserted 4 fingers below *trochanter magnus*, where a certain eminence of the bone appears. The 2d and middle from *os ilium's* outer part, is inserted in the great and outer *trochanter*. The 3d and inmost from *os ilium's* outer, but more lower from the surface, is implanted in *trochanter magnus's* top: 'tis bent by 1. *Psoas*, spread over the bodies of the *lumbar vertebrae*, in the bellies hollow, from the *transverse apophyses* of the back's 2 lower *vertebrae*, and carried upon *ilium's* inner surface, is inserted in the small *trochanter*. 2. *Iliacus* from *os ilium's* inner cavity, and by its tendon join'd with
the

the *lumbar*, ends between the great and small *trochanter*. 3. *Pectinæus*, from *os pubis*'s upper part, is inserted below the foreside of the thighs neck: 'tis drawn inward, by *triceps*, which has 3 *origines*, and as many distinct insertions; 1 head rises from *Os Pubis*'s upper part; the other from the same *Os*'s middle; the 3d from its lower part, and are inserted in *femur*'s hinder line, dispos'd by course. This muscles action is strong and valid, drawing the thighs inward, when we climb Trees and Main-masts, and Ride: Small ones draw it outward, because this motion is not very necessary. *Quadragemini*, are 4 small ones by course placed on the hinder part of the thighs articulation; the first and upper longer than the rest, and Pear fashion'd; by others is called *iliacus externus*, rises from *os sacrum*'s lower and outer part, the 2d rises from *os ischium*'s bunch; the 3d contiguous to this, rises from the same part, and these 3 are inserted in great *trochanter*'s cavity; these 3 included in great *trochanter*'s cavity, serve to thrust down, or lengthen *femur*, when 'tis stretch'd a little beyond its natural length, which you may observe in one upon his back and body extended. They perform this action in the manner as *Ptergoideus internus* between the two jaws drives the lower forward. *Quartus quadratus*, broader and fleshier than

than the other, distant from the 3d 2 fingers breadth, from the inner part of *ischium's* bunch, is fixt to the great *trochanter's* outer part : two *obturator's* obliquely wheel it about ; *internus*, from the inner circumference of a hole in *Os Pubis*, and carried through that *sinus* between *ischium's* knob and socket, by a *threecleft tendon*, is carried to great *trochanter's* cavity ; its *tendon* folded and inclosed in the 2d and 3d *quadrigumines*, resembling a Purse, directs the outer wheeling. *Externus*, from the outer circumference of the hole in *Pube*, and roul'd through *femur's* neck, as through a Pulley, is carried to great *trochanter's* cavity, under *quartus quadrageminus*, it governs the inner wheeling.

The *Leg* is bent by 4 hinder muscles .

1. *Seminervosus*, from *ischium's* knob, ends in the *Leg's* hinder and inner part.

2. *Semimembranosus*, from the same knob, with a nervous and membranous beginning, but broader *tendon* is drawn to the *Leg's* inner and hinder part.

3. *Biceps*, from the same knob, and carried by *femur's* outer part, about its middle assumes a carnosus lump, which *Riolan* saw separated to its head, for a 2d muscle is inserted in *tibia's* outward part by a *tendon*.

4. Vulgarly *posticus gracilis*, from the line which shews the closing of *os ischium* and
Pubis,

Pubis, and descending *femur*'s inner part, is inserted in the Legs inner part. *Riolan* refers *Popliteus* to the benders; lurking in the ham's hollow, above *soleus*'s head; from *femur*'s extern knob is obliquely inserted in the Legs hinder and upper part, which it straitly embraces: 6 muscles extend it. 1. *membranosus*, from *os ilium*'s upper spine is carried to *tibia*'s, or rather *femur*'s fore-part, and girts in the Legs muscles, like a membranous swath, except *Sutorius*. This rising from *ilium*'s upper spine and fore-rib, and sliding obliquely by *femur*'s inside, ends in *tibiam internam*, which it is said to bring to, and place over the other, after the manner of Tailors, when they sit cross-leg'd. *Rectus gracilis*, from *os ilium*'s lower spine, carried right along *femur*, ends in the Legs fore-part beneath *Epigonatis*; the two *vasti* border on *rectus gracilis* on each side: one of which, *externus*, from great *trochanter*'s Root, ends in the Leg a little below the *Patella* outerly; the other *internus*, from little *trochanter*'s Root, falls in the Legs inside a little below *Patella*. *Crureus*, plac'd under the *vasti*, from *femur*'s fore-bone between the *trochanters* and cleaving to the whole thigh, produces its tendon over *Epigonatis ad tibiam anticam*. These *rectus gracilis*, *vasti duo*, *crureus* nnited about the knee form a broad, strong tendon wherein *Patella* is infolded. As

As the hand is divided in three parts, so the foot into *tarsus*, *metatarsus*. and *phalanx*, or rows of toes; and as the *carpus* is moved, *metacarpus* unmov'd, so *tarsus* is mov'd, *metatarsus* unstir'd; therefore *tarsus* is bent, when mov'd forward, extended when backward; where note the bowings of the members in the whole foot are contrary; in the hand alike, for taking hold; in the foot contrary, for firm standing, and performing different actions; for *femur's* flexion is forward, *tibia's* backward; the foot's flexion forward, the toes backward.

Two muscles bow *Pes*, or *Tarsus*: *Tibialis anticus*, from *tibia's* upper *Epiphysis*, near *fibula*, cleaving to the whole Leg, about the middle of the bone degenerates to a *tendon*, which under the foot's annular ligament is cleft in 2 tendons, one of which is inserted in the first nameless bone, the other reaches to *os metatarsus's* bone over the great toe. *Peroneus Anticus* is join'd to *Peroneus Posticus* in its rise; though both *tendons* are drawn through the outer ankles cleft, which in their end and insertion are separated. *Anticus* from *Perone's* middle and extern part, led through the extern ankles cleft, is inserted forward in *os metatarsis*, which sustains the little toe. The foot's extended by hinder muscles; the first and outmost are the twins, because

because alike in bulk, strength, action, call'd also *gastrocnimii*; one internal, plac'd in *tibia*'s inner side, the other its outside; the inner twin, rises from *femur*'s inner *condyle*, the outer from its outer; disjoin'd in the beginning, at length grow into one belly, which, by a strong *tendon*, is carried to the heels hinder part.

Plantaris lurking between *gemelli* and *soleus*, from *femur*'s outer *condyle*, carnosus upward, presently by a small longish *tendon* under the heel by the inner ankle bone is diffused to the sole of the foot. It performs the same office in the foot as the hand, that the foot might answer to the hand, and whilst the foot is hollowed, the skin might be firmly glutinated by the under tendons. *Soleus*, a broad and thick muscle, takes its origine from *tibia*'s upper part, or from *tibia* and *perone*'s upper and hinder joining, and, by a tendon mixt with *gemelli*, is inserted in the heels hinder part: of *gemelli* and *soleus* join'd in the lower part, is made the most thick and strong common tendon, which *Hippocrates* call'd *chorda magna* whose hurts, bruises, and cuts, bring death. Two hinder muscles extend the foot: *Tibialis Posticus*, from *tibia*'s upper part, and fixt to all of it, through the inner ankle bones cleft produces 2 tendons, one ending in *scaplois*, the other carried to the
first

first nameless bone. *Peronæus posticus*, from *Perone's* upper and hinder part, carried by a cleff of the outer angle with *anticus peronæus*, to *os metatarfi*, sustaining the great toe under the foots sole, transmits its broad, hard and gristly tendon under the tendinous head of that fleshy mass which produces its intern interosseans. *Peronæus anticus & posticus*, as they are distinct in their origine, so in insertion, though drawn through the outer angles pully; but the tendon of *Peroneus's* other bender is outerly inserted in *os metatarfi*, sustaining the little toe. The tendon of the other extender and hinder *Peronean*, is carried further innerly under *Pedieus*. These 2 tendons included in nerve-gristly sheaths are separated.

The *Toes* have their proper muscles to bend, extend, and for side motion, whose tendons are comprehended in a round and transverse ligament, scattered below the ancles, as in the wrist, *longus*, or *cnimodaçtilyus*, from *tibia's* fore-inner side, where it joins *fibula*, hid under *tibiæus antic.* descends strait along *fibula*, and passing beyond the *ring ligament.* ends in the 3 joinings of the 4 toes, that it may at once extend the 3 joints of the said 4 toes. *Brevis tensor*, or *Pedieus*, from the heel and outer part of neighbouring *astragalus*, and spred under the upper, is, with its tendon

inserted in all the joints or knobs, these extend them; the tendons of these both long and short, cross one another above *metatarsm*. They are bent by *brevis* and *longus*, which answer *profound & sublim.* of the hand: *longus flexor*, or *perodactyleus*, from *Perone's* hinder upper part, and carried along the inner angle through the heels peculiar cavity, is cleft in 4 tendons, which are drawn through the slits of the short toes bender's tendon, as in the hand, is inserted in 4 toes 3d joint. *Brevis flexor*, or *pedieus intern.* from the heels inner and lower part, and parted in 4, ends in the toes 2d joint; its tendons are perforated for *longus flexor's* tendon to pass through, they are drawn side-way by 8 *musculi interossei*, 4 inner, 4 outer, which are not dispos'd as in the hand; the outer from the *metatarsi's* bones spaces, the inner plac'd in the foot's hollow, are spread over the bones, and are drawn from one nervous sharp beginning, nigh the heel, fixt innerly, and cleft in 4 tendons, and end in the 2d joint, whereto *lumbricales* cleave; therefore the outer *interosseans* fill *metatarsus's* bones spaces. *Lumbricales* rise not from the long toe benders tendons, as in the hand, but from a fleshy mass, which lies hid under the short toe bender, and this rises from the heel.

The great toe bender near the toes long
bender

bender fleshy, from *fibula's* upper part, where it joins *tibia*, and marching under the inner ancle, and foots sole, is inserted in the great toes first bone; and before it comes to the 2d, a little *sesamoidean* intervenes, and the tendon for security is intercepted by 2 greater *sesamoidean* ossicles; sometime under the foots sole 'tis tore in 2 tendons, one assists the great toe, the other the 2d little toe; then the long toe bender is divided in 3 only. *Extensor pallicis*, from *tibia's* outside, where it gapes from *fibula*, and creeping along the foots surface, is inserted in the whole great toes upper part, the other ends in *metatarsus's* bone spread under the great toe. The great and little toe have 2 notable muscles outerly fitted, which abduce them; so that one outerly stretch'd to *os metatarsi*, which is plac'd under the great toe, is nam'd its *abductor*; the other outerly lying upon *metatarsus's* 5th bone, is call'd the little toes *abductor*; they answer the hands *thenar* and *hypothenar*. Beside the great toe, in the foots sole, has another transverse muscle, like *antithenar*, which from *os metatarsi's* ligament, which lies under the least or next toe, marching obliquely over the other bones, with a strong tendon, ends below in the great toes first joint; this is opposite to *abductor*, to draw back the great toe.

Now of the veins, arteries, and nerves of the limbs. S 2 The

The veins of the Arm begin *ab axillis*, in the Leg *ab inguine*. *Axillaris*, nigh *axilla*, produces *cephalica*, it runs without an artery along *radius*, then emits *thoracica*, which, expanded over the chests outer parts, meets small twigs of *azygos*; after 'tis call'd *Basilica*, and at the cubit's cleft in 2 branches; one creeps along the inner cubits length, the outer under the skin descends to the hand; the inner branch is call'd *mediana*, and receives a branch of *cephalica*, below the cubits bending; where 'tis call'd either cephalic, or basilic; *cephalica* stretch'd upon *radius*, nigh *carpus*, turns to *metacarpus*, to water the hollow of the hand. Between the ring and little finger in *metacarpio's* plac'd *salvatella*, between the thumb and fore-finger *pollex*. *Mediana's* wholly extern, and subcutaneously runs *ad palmam*. *Basilica* creeps along cubits inner and outer parts, by a two-headed branch; the veins of the limbs communicate with the Arteries.

For the Arteries, *ramus superclavius*, going *ad axillas*, is call'd *axillaris*, accompanying *vena basilic*. where there's no cephalic artery: nigh *axilla* it produces *thoracica*, and in its progress bestows twigs to nigh parts, and stretched to cubits bending, is cleft in 2 branches, carried to the inner hand; the other branch stretch'd upon *radius's* inside, is felt
in

in the wrist ; the other, running strait to *ulna*, with its fellow, is spread upon the hand, the thumb and little fingers length, bestowing branches on every finger.

For the *Nerves*, out of holes of 4 lower neck *vertebræ*, and the backs 2 first, 5 or 6 *Nerves* spring, which, drown'd in *scalenus*, are brought under *clavicula* to *axilla* ; where they are folded like a Cardinals hat strings. After the 4 upper, under *deltoides*, are sprinkled on the inner part accompanying *basilica*, and the arms artery, creeping between *biceps* and *brachius externus*. The 5th and 6th Nerve, bent back under *scapula's rotundus major*, are disseminated on the heads hinder muscles, then the 4 describ'd which carried by the arm and cubit, are dispers'd to the cubit and hand. 1s. *Nervus* below the shoulders head, is drown'd in *coracoideus*, and drawn under *biceps* inside, and lurking under its tendons, joins *vena cephalic*, where it grows small; and is spread under it, below cubits bending. 2s *Nervus*. undivided, and thicker, descends to cubits bending, where 'tis under *arteria* and *ven. basil.* but 4 fingers beneath the bending, always stretch'd over *basil.* it runs undivided to *carpus*, where the vein is higher ; in *carpo* 'tis cleft in 10 small twigs, giving to each finger 2 scions creeping side-way ; below cubits bending 3 fingers breadth, 'tis

cover'd by *carpus* and *cubitus* bending muscles, which rise from the arms inner bunch. The 3d is led undivided to *ancona*, where carried by a cleff between *olecranon* and *condylum intern. brachii*, all cubits length, and spread over *cubitus intern.* 'tis carried to *carpus* toward the little finger; therefore by leaning on the elbow, the whole arm's benumbed; near the hand cleft in 4 branches, 'tis spread over the hands outside. The 4th thickest infolded with veins and arteries, and sunk in *brachius extern* is led from the arms forepart to its hinder, and, descending by it to *radius* all along, join'd to *cephalica*, and lies hid in *carpus*.

For the lower limbs vessels, *cruralis vena* produces in *inguine* a famous branch, i. *Saphena*, which descends the ham along *sutorius*; below in *sura* making *poplitea*, which was open'd anciently; there it transmits a branch, returning upward above the ham to the *crural* veins; or from these *crural*, *saphena* receives that twig; then cleft in two, it slides to both outer ancles, but the greater part runs to the inner, where it forms the true *saphena*.

When the *crural* hath produc'd *saphena*, 'tis presently divided in 4 branches, 2 outer, lateral and shorter are scatter'd on the thighs upper muscles both inner, i. *biceps*, and
outer,

outer, *i. vasti* and *crureus*. The 3d branch penetrating the inner parts, is call'd *ischiadius*; the 4th *muscularis*. These branches being produc'd, *crural's* trunk spilt in 2, descends to the knee, environ'd with the *crural* artery cleft in 2: but the one goes high, watering the outer parts, the other's deeper; both send twigs to the neighbour parts, and when they come to the ham drawn between *soleus* and *gemelli*, descend to both ancles. But the outer ancle is principally bedew'd by the deeper *crural*; yet so, as in the ancles compass occur 2 notable veins. That which rests upon the inner ancle, is a branch of *saphena*; that which runs below it spread over *tarsus*, is *crural's* issue. The *crural* arteries distribution is unlike the veins; for it produces no *saphena*: For a little helow *inguen*, it transmits 2 between *triceps* muscle, which reach as far as *gloutii*, then it emits 2 to *femur's* fore-parts, then undivided descends to the ham, where 'tis cut in 2 branches; one creeps along *tibia's* outer part above *peroneus*; the other thrust into *soleus*, and sliding to *pterna*, is plac'd in the foot's sole, and the other is scatter'd on the foot's out side.

Femur's fore-parts Nerves are 2, distinct in their rise, but presently joining, make one cord, carried undivided *ad inguen*; where 'tis commonly parted in 5 twigs, inclos'd in a

membrane; which disperst up and down, are spread on *femur's* fore-parts muscles, even to *patella*; their rise is in the loins 3 lower *vertebræ*, nor does it appear till you tear *psoas*, in which they lurk. A great and very thick Nerve in its rise, creeps along *femur's* hinder part, made of 3, and oftner 4 portions, which are bred out of 3 or 4 *os sacrum's* upper holes, and carried through *os ischium's* hole, between the same *os ilium's* spine, by *femur's* inner and hinder muscles undivided, sometime double and solitary without the company of vein and artery, as is usual in other Nerves of the body, is carried to the ham; where cleft in 2, sometimes 4, it bestows small twigs, according to its bulk, on the nigh parts; the other branch descends by *sura* to the heel, bestowing little Nerves by the by, and drawn through the inner ancles cleft, is distributed on the foots sole into as many branches as fingers. Another is carried to the foots fore-part stretcht to *perone*, and slides to the outer ancle, and when 'tis come there, 'tis scatter'd on the foots upper part, as was said of the other.

This Nerve is not mixt with the other as in the arm, but is carried behind *femur*, because the arms joint is farther from the necks *vertebræ*, than *femur's* is from the loins *vertebræ* and *os sacrum*. Gal. c. 8. l. 16. de usu part.

About

About the great Nerves beginning is another join'd, leaping from *os sacrum's* third hole, and carried above its spine ; cut into branches, is diffus'd on *gloutii*, and *tibia's* benders, even to the ham.

Of the B O N E S.

Hippocrates and *Galen* teach to begin the Study of Anatomy with the Doctrine of the Bones, therefore the Student ought first to be instructed in the knowledge of the Bones, before he come to Anatomical Inspection of the whole Body : else he will be but half-sighted, in noting the original and insertion of the muscles, and cleaving of other parts to bony conceptacles.

* A Bone is a similar part, most cold and dry, form'd of the thick and fat substance of the seed by heat, for the form and settlement of the whole body.

The Bones are knit together *per articulum* and *symphism* : *Articulus* is twofold *Diarthrosis*, & *synarthrosis*, that hath evident motion, this obscure, or none ; therefore the difference of each is equal, but this is call'd *enarthrosis diarthrodia* ; that *enarthrosis synarthrodia* : *enarthrosis* is when a large and long head goes into an ample cavity, which seeing is common to *diarthrosis* and *synarthrosis*, see

an example of both. *Enarthrosis diarthrosis*, is evident in *ischium's* joint; the other is obscure in the ancles articulation with *scapulis*. *Arthrodia* is perform'd, when a depress'd and plain head, is receiv'd by a light and superficial cavity: an example of *arthrodia diarthrodes*, is the joining *humerus* with *scapula*; of *arthrodia synarthrodes*, is *carpi cum metacarpo*. *Ginglymos* is a mutual ingress of bones; as in *hinges of doors*, &c. *ginglymos diarthrod.* is *humeri cum cubito*; *ginglymos synarthrodes tali cum calce*. *Ginglymos* is 1. *simple*, made of two bones join'd by one, and a simple articulation in the same part, as in the juncture of elbow and arm: 2. *compound*, consists of a double one, perform'd in the same ends, or in distant places, of 2 or 3 bones; which made by a double articulation, is finish'd in the same ends: 'tis seen in the necks *vertebræ*: a compound by a double article, in distant ends of 2 bones, is seen in *cubitus* and *radius*, of 3 bones in the loins and backs *vertebræ*. Beside, *synarthrosis* contains under it 1. *Harmonia*, is a conjunction of bones by simple contact without mutual ingress of ends; distinguish'd by a right, oblique, or winding line. 2. *Sutura* is a joining of bones, like thrusting the teeth of 2 laws or combs within one another, 3. *Gomphosis*, is when one bone is fix'd firm in another.

Symphysis,

Symphysie, opposite to articulation, is an immoveable conjunction of bones; as if those were united which Nature brings forth divided, and in process of time grow together: therefore some are united without any discernable *medium*, others with one interpos'd; whence arise 3 simple differences of *symphysis*, *syssarcesis*, *syneurisis*, *synchondrosis*; only one mixt i. by a nerve and cartilage, which *Galen* calls *neurochondrosis*.

Many bones make the *scull*, their partings are call'd *sutures*; some, 1. true and proper, which distinguish the bones of the scull from the upper jaws, which are like the conjunctions of two saws or combs intertexted, 1. *Coronalis*, going to both temples. 2. *Lambdoid* opposite plac'd in *occipite*. 3. *Sagittal*, from *lambdoid*'s top the sculls length, and sometimes to the nose top joins both. 2. False join the temple bones to the heads top: common 1. *Frontal*. from the eyes outer corner passes by *orbis* middle, even to *supercilium*, keeping the same way by the other *orbit*, ends in the lesser corner, parts *os frontale* from the lower jaw. 3. *Sphenoid*, circumscribes *os sphenois*, beginning at the middle part of the heads crown, ends in the jaws outer teeth. 3. *Ethmoid* compasses *os ethmois*, is liker *harmonia* than *sutura*.

The bones are 1. *os frontis*, distinguished by the

the first common, and coronal suture, it includes 2 cavities deriv'd to the nostrils; 2d, 3d. are call'd *sinciput*, separated above by the sagittal, below by the scaly false suture; before by *coronal*, behind by *lambdoid*. The temples are under these, scaly upward, downward hard and rough, call'd *petrosa*. In this part, note 4 *apophyses*, *mastoid*, *styloid*, *zygomatic*, 4th in the skulls inner *basis*, and may be call'd *auricular*, in this are contain'd the ears 3 cavities: 1. *Forus auditorious*, outer. 2. *Concha*, comprehends the inner air, and 3 ossicles, *malleolus*, *incus*, *stapes*, and a hole passing to *mastoid*'s hole. This hole's end opposite to the drum, hath 2 holes boar'd in't; the greater call'd the oval window, the ingress to the third cavity. 1: *Labyrinthus*, from its various turnings, returning to the same cross-way; the other narrower, is the entrance to the fourth cavity. 1. *Cochlea*, from its rough and writh'd figure: the 6th bone's call'd *lambdoides*, and separated by the *lambdoid* suture: the 7th *sphenoid*, its inner table swells with 3 *apophyses*, call'd *clinoides*, one hinder 2 fore, reaching to the optic nerves rise: the cavity between these is call'd *fella sphenoides*; its outer table hath 4 *apophyses*, 2 hollow like a ship, call'd *navicularis*, *pterygoides* by *Galen*; the other go to the temples, *temporals*: the 8th *ethmoides*, by *Galen* *spongides*, consists of seven

seven several portions : 1. the table board like a sieve, from which rises an *apophyses* within the scull, the 2d portion, call'd *crista galli*; without the nostrils from the same table depends the bony plate severing the nostrils, call'd *septum narium*, and is the 3d portion : to this stick 2 spongy bones, which make 4th and 5th. part ; the 6th and 7th portion is a thin, plain, smooth, like a thumbs breadth ; it makes each *orbits* inner side nigh the great *canthus* ; below it covers 3, sometimes 4 *cells*, reaching from the great *canthus*, to the inmost *orbit*.

The upper jaw hath 5 bones on each side, one without a fellow sustains the palats middle, i. *Galen* calls *melon*. it may be call'd *zigomaticum*, from making *zigoma*'s greatest part, the eyes less corner, and great part of *orbit* : now *zygoma*'s a bony semicircle made of 2 *apophyses* join'd in the middle by the oblique suture ; one proceeds from *petrosa*, the other's part of the cheek bone. - 2. *Os unguis*, *officulum lacrymale*, *os agylopis* rests in *majori cantho*. 3. *Os maximum*, makes the teeths middle part, compleats the lower *orbit*, and the noses inner part : 4th forms the nose ; so 4 bones form the nose, 2 proper mention'd last, 2 common, part of the *maxillary*; late Authors add a bone between *sphenois* and *palatum*, not unknown to *Hippocrates*, call'd *Vomer*, reaching the inner nostrils,

nostrils, sustains the noses bridge, to which 'tis join'd by *suture*, or *harmony*.

The *orbitary* bones are not proper, except the *angular*, but portions of the scull and upper jaw. 1. *Frontal*, makes its vault. 2. Part of *sphenoid* sited in *orbis* deep outer side *ad canthum min.* 3. *zygomatium* makes *canthus min.* and the *orbits* pavement. 4. *maxillare*. 5. *lacrymale*. 6. *Os ethmoidis* scaly table, makes *orbits* other side *ad maj. canthum*; these bones are discern'd within the *orbit*, with their proper and common *sutures*.

The lower jaw in *adults* is one bone, in which its *basis* and its ends are noted; *basis* middle part, hollow within, bunching without, is call'd the *chin*; its ends are call'd corners, each horny end sends out 2 *apophyses*, one sharp, call'd *corone*, receives *muscul. temporalis* tendon; the other *condylodis*, it may be call'd *articularia*, for serving to the jaws conjunction. Below these is a noted inner hole, by which vessels are scatter'd to the teeth; part of which goes by the chin, by a narrower and outer hole, dispers'd to the lips muscles.

The teeth *basis* is that part without the gums, their root's within, hollow to receive a small vein, artery and nerve; their root is various in number and figure; that of the cutters simple and streit, distinguish'd by a cleft
for.

for firmer sticking : so is the dog teeth, in the upper grinders 'tis triple and crooked, because they hang down ; in the lower double, and sometimes triple : their number in full age is distributed in 3 orders, as to site and bigness ; the first 4 are call'd *cutters* ; on each side one join'd next, *dog teeth* ; the rest 8, or 10. *grinders* ; they are plac'd in by *gomphosis*.

The trunk, the *skeleton's* 2d part, comprehends the spine, and bones adhering, 'tis made of *spina*, and *thorax* ; *spina* or *rachis* is a bony pipe, the spinal marrows conceptacle, reaches from *caput* to *coccyx* ; it consists of many bones, for security and action of bowing, &c. call'd *vertebræ* ; in each note two parts : 1. inner thick, round, call'd *corpus* ; the other outer, swelling with diverse *apophyses*, wants a name ; of the *apophyses* are 3 differences : 1. *streit*, *oblique*, *transverse*, the hinder's sharp, call'd *spina* ; the lateral and transverse is double, the oblique fourfold, by which the *vertebræ* are join'd by a compound *gynghyum*, whereto 3 bones are requir'd ; of the oblique *apophyses* two bend upward, two downwaad ; so all the *vertebræ* swell with, 7 *apophyses*. The whole *rachis* is parted in 4, neck, back, loins, or *sacrum* ; the neck hath 7 *vertebræ*, back 12. loins 5, or *sacrum* is one, or 3. in adults.

In the necks *vertebræ*, all the transverse *apophyses* are perforated, to give way to the ascending cervical veins and arteries, hollow in the ends to convey the soft nerve; the sharp are horned, for the rise and insertion of muscles; but the upper 2 have another structure for the heads motion; for the first wants a spine, and a thick round body; the 2d emits an *odontoid apophysis*; all the necks *vertebræ* are strictly and intricately join'd, lest they should slip asunder in the necks vehement motion.

The backs *vertebræ* are alike, their *apophyses* solid, and continued without any hole: the 12th or 11th *vertebræ*s articulation differs from the rest, these cohere by *ginglymus*, they by *arthrodia*; so the motion of the whole spine, i. flexion, extension, obliquation is perform'd upon that *vertebra*.

The loins 5 *verteb. apophyses* differ from the backs, for the hinder, or *spinæ*, descend not as the backs, are streit and broad; the *transverse* are longer, standing instead of Ribs.

Os sacrum is under the loins, and seems one simple bone, yet boil'd long in oil, it divides in 5 or 6 parts, to its end's join'd a three, seldom four cleft, or cartilaginous bone, call'd *coccyx*, we the crupper bone.

Thorax cum spina make the *skeleton's* trunk; *thorax* is made of 4 kind of bones; *sternon* before;

before; the Ribs o' the side; *clavicula* o' top the back behind; *sternon* in *adults* is a continued bone, distinct by 3 or 4 *transverse* lines, the footsteps of ancient divisions; more conspicuous inner, than outerly; on this bone's end depends the *xyphoid* gristle, representing a shield in brutes. xii Ribs on each side; 7 upper call'd *true*, because join'd to *sternon*; the 5 lower *false*, because not join'd it; but to a gristle to give way to tumors of the liver and spleen, and yield to *diaphragma's* motions. The clavicles are on each side one, in figure like an Italian S. join'd between *acromium* and *sternon*, they keep *scapula* in its site, lest it fall upon the breast.

In *Omoplata* many parts come to be noted, very requisite to the rise and insertion of the muscles; part of it stretch'd along the back, is call'd *basis*, whose ends are call'd angles, one upper, the other lower. *Basis fides* are call'd Ribs, of which the shorter, thinner's call'd the upper; the longer & thicker, the lower; its whole *trapesian* breadth's call'd *mensa*, whose outer part is gibbous, inner hollow, to receive a muscle. A famous *process* or *apophysis* ascending upwards from its *basis*, is called *spina*, whose broad end is called *acromion*, which, according to *Hippocrates* and *Galen*, is a distinct bone, gristly in children, in *adults* bony, which after 20, and sooner, is chang'd

chang'd to an *apophysis*, glued to *spina*. *Fossula* stretcht on each side *spina*, is call'd *inter-scapulium*; one upper, the other lower; but *spina*'s middle bunch call'd *pterygium* vulgarly; *scapula*'s other great end, under *acromion*, and opposite to *basis*, is call'd *cervix*; in it note *apophysis coracoides*, made for security and firmness of the shoulders joint: the necks cavity's *glenoides*.

Manus depends upon *scapula*, divided into 3 parts, *humerus*, *cubitus*, and *extrema manus*; in *humero* note 2 ends, for insertion of muscles; the upper, call'd *Caput*, which a membranous ligament from *glenoidis* mouths cavity compasses, besides the *aponeuroses* of 4 muscles wherewith 'tis involv'd; a little below *Caput*, the orbicular narrowness is call'd the neck. In the head is engraven a longish chink, by which *biceps* nervous head is drawn; in the arms other ends the *trochlea*, about which the cubit's turn'd; about *trochlea* are 2 cavities, the inner ampler than the outer; in these are receiv'd the cubits *apophyses*, call'd *coronæ*; 2 o' th' arms *apophyses* are join'd to *trochlea*, call'd *condyli*, one lower, inner, the other higher and outer.

Cubitus is made of 2 bones, one higher, shorter, call'd *radius*; the other lower, greater, under the former, keeps the name of the whole, atd is called *cubitus*, by some *ulna*: 2 bones

bones were necessary here, because of the double and contrary motions, which could not be perform'd by one bone join'd by *ginglymos*; for that suffers only flexion and extension, not inversion, which *radius* join'd by *arthrodia* performs. *Radius*'s obliquation cannot be perfectly discern'd, unless in a new carcass, all the muscles remov'd: for then, with great admiration, you'll see *radius* turned upward and downward upon cubits being firm; and also mov'd with *cubitus*, when bent and extended, In *cubitus* ends is something worth note; for in the upper end is the *sigmoid* cavity, which embraces the arms *trochlea*; about this 2 coronal *apophyses*, the lower's call'd *olecranon*; in the lower part *cubitus* emits the *styloid apophyse*; these bones are join'd together in their ends, by that *ginglymus* made of 2 bones, going in one another in distant places.

Extrema manus is divided in three parts, *carpus*, *metacarpus*, and *phalanx digitorum*, because they seem to stand in battel array.

Carpus is made of 8 bones distributed in 2 orders, join'd among themselves by *symphysis*, and, its *species. harmonia*; therefore *carpus*'s bones are mov'd among themselves obscurely, or not at all; the first order with the lower cubit makes *arthrodia diarthrosis*; the same order's knit with the 2d order of *carpus*'s bones

bones by *arthrodia* ; which 2d order is join'd with *metacarpus* by *arthrodia synarthrosis*, therefore this joint's motion is either none at all, or insensible, but the first order with the 2d is mov'd obscurely.

Metacarpus is made of 5 bones, if with *Riolannus* we add the thumbs first bone, which others reject ; because obliquely added to *metacarpus*, and manifestly moves, against the nature of *metacarpus*'s other bones, which with *carpus* make *arthrodia*, with the fingers *enarthrosis* ; yet *metacarpus*'s 4th bone sustaining the Ring finger, moves manifestly. From each bone of *metacarpus* is each finger directly reach'd out, *pollex* excepted : the fingers consist of 3 bones join'd by *ginglymas*, so are only bent and extended ; their oblique and lateral motion depends on the first bones *enarthrosis cum metacarpis*.

The greatest bones of the body which join'd with *os sacrum*, sustain and erect the trunk, are call'd *ossa ilium* ; in adults continued, in children tripartite, and retain the ancient names, though the footsteps of divisions are obliterated : the bones broader part making almost its whole breadth, and reaching *ad medium acetabulum*, is call'd *os ilium* ; the upper half of the other part is call'd *os pubis*, the lower *ischium* : of these 3 parts the great *basin* is form'd.

In these bones some particulars are to be noted; Anatomists call *os ilium's* external face *Dorsum*, the upper, inner, hollow, *venter*; the end *costa*, inner, and outer brims, call'd lips, or brows; so as *one's* inner, ~~the~~ other outer; its bunchy end join'd to *os sacrum* the *hinder spine*; its other end towards *acetabulum*, the *fore upper spine*; under this is another, call'd the *fore lower spine*. In *os pubis's* a *spine* near *symphysis*, by its joining a top with its other fellow: in *os ischium's* a *spine* and bunch, the tubercle's call'd *condylus*.

The *feet*, as the *hands*, are divided in 3 parts, the *thigh*, *leg*, and *foot*; the *thigh bone* is the greatest of the whole body: now its ends, in the upper is *caput*, round, under which is a slender part call'd *cervix*; from which are 2 *apophyses* produc'd, to which *musculi rotatores* are fixt, therefore call'd *trochanters*; the *fore's* call'd *minor trochanter*, the upper lateral, *major trochanter*. The *thigh's* other end is parted by 2 *condyli*, the middle cavity being left, which admits the *legs* middle and bunchy *apophyses*, and *vicissim femur's condyls* are received by the *legs* cavities, by a loose *ginglymos*: this articulation's fore-part is call'd *genu*, the *hinder poples*. *Patella*, a small bone spread over, and cleaving to no bone by article, fixes and strengthens this articulation.

The

The leg is compos'd of 2 bones, the greater and inner is call'd *tibia*, the lesser and outer *fibula* : *tibia* is articulated to *femur* by *ginglymos* ; *fibula* sticks to *tibia*, not touching *femur*. *Sura* and *tibia*'s lowest and buncchy parts are call'd *maleolli*, *tibia* makes the inner, *fibula* the outer angle.

Pes is divided in *tarsus*, *metatarsus*, and *toes*; *tarsus*'s made of 7 bones : the first join'd to *tibia*'s call'd *astragalus*, or *talus* ; that under this *pterna*, 3d join'd to *astragalus*, *scaphoides*, 4th to which is join'd the heels lower and fore-part *cuboides* ; the other 3 have no names, or *calcoidea*. *Metatarsus* is form'd of 5 bones, answering *manus metacarpio*. *Digiti* consist of 3 bones, except the greater, which have only 2 ; certain officles fill and strengthen the interjunctures of *manus* and *pedis digiti*, chiefly in adults ; of uncertain number call'd *Sesamoidea*. In the great toes 2d article, are 2 officles worth note, and big enough ; always found in all cacasfes, and are to be added in fabricating.

Thus have I given thee a short Anatomical Treatise, where I have, as nigh as possible, kept to the doctrine of the Ancients, after the manner of my ever honoured Master, Dr. Riolan, whose *Enchiridion Anatomicum* I have *Enchiridioniz'd*, if I may so say, for thee.

If thou ask why so? I answer, first, I know not a better the world yet hath produc'd for young Students; and himself is stil'd, by our English *Hippocrates* Dr. *Harvy*, *Coryphæus Anatomicorum*; and is said by Dr. *Primrose*, to have perfected Anatomy; lastly, in his last Edition of his *Anthropographia*, he disowns all his other Anatomical Treatises, except his *Enchiridion*. Secondly, I did it to free so great a Person from a many Errors, committed by a Translator into English.

Courteous Reader, what thou find'st either literal or more material, be pleas'd to correct and pardon: For *humanum est errare*.

F I N I S.

Chirurgus Methodicus;

OR, THE

Young Chirurgion's
CONDUCTOR

THROUGH

The Labyrinth of the most
DIFFICULT CURES

Occurring in his whole Art;
And whereby he is distinguished
from Empiricks & Quack-salvers.

Being a SUPPLEMENT to
Brugis's Vade Mecum.

By *E. Pratt*, M. D.

L O N D O N,

Printed for *T. Sawbridge*, at the
three Flower-de-luces in
Little Britain. 1689.

THE
P R E F A C E
TO THE
Young Artist
IN
CHIRURGERY.

THIS following Treatise may be call'd a Commentary upon the third and fourth Books of *Galen's* Method of Physic, which treat, principally, of the cure of Ulcers; but if the young Artist shall be ingenious he'll find it to be calculated, as well for the cure of other diseases that belong to his Art, viz. *Wounds, Tumors, &c.* Now *Galen*, the Prince of Physitians, next to
A *Hippocrates*

The Preface

Hippocrates, having, in his first and second Books of his Method, summarily declar'd; that in the cure of diseases the Physitian ought to proceed by Method and Indication; bravely disputing against the Empyrics of his time; and all such as cure by adventure: In his third Book he shews particularly by what sort of Indications the said Method is guided. Wherein he disputes learnedly against that Sect which are call'd Methodists, or *Thessalians*; who, in the cure of all diseases, follow'd but one Universal Indication which they took from the Essence of the disease. Whom to confute he frames Examples from the Method of curing Ulcers: Wherein, according to their diversity, he clearly demonstrates that the Artift hath need to observe divers Indications: And so thereby confuting the Empyricall and Methodical Sects; he frimely establishes the Dogmatical practise of Physic. And

to the young Artist.

And this is all I thought I need to premise; only desiring the young Artists to be studious; that thereby they may come to be famous; and do good in their generation. And that thou may'st so be, and not spend thy time a miss, as our famous Dr. *Read* said, that if any had a mind to mispend good hours let them read *Paracelsus's* Chirurgery: I shall recommend these few Authors following to be read by thee. First then if thou understandest not the Latine tongue, thou mayst procure to thy self, the works of our famous Dr. *Read*, lately completed and perfected by an ingenious *London* Physitian; or *Cook's* Marrow of Chirurgery, the last Edition in Quarto, or the voluminous Book of *Ambrose Parey*; Mr. *Wiseman's* Observations are ingenious: Then for Latine Authors *Hieronimus Fabricius ab Aquapendente*, *Scultetus*, *Tagautius* and *Riolanus*

The Preface

Ianus may be sufficient ; by reading which Authors thou wilt see how great Art is requir'd in the cure of Wounds, Ulcers, &c. more than Empyrics, Quacks, and your old women in the Country, are sensible of; or can comprehend ; as first 'tis to be enquir'd whether an Ulcer, for Example, be simple, corroding, sordid, &c. then the variety of remedies and circumstances, renders the Art, fallible incertain and conjectural. All which cannot be known but from the writings of learned Physitians and Chirurgions ; for *Galen* tells us, in his Method, that remedies are to be varyed, according to the difference of persons, parts affected, &c. for in some cases a deterging Medicine will prove suppurating ; as *Thus* ; and in others the same is only Sarcotic : And the same *Galen* gives us an Example, of a Chirurgion, who when he saw great putrefaction in an Ulcer, dayly apply'd

to the young Artist.

ply'd stronger detergents, as *Ærugo* ;
and so the putrefaction grew greater,
because the remedy was too strong. So
an Ulcer in the thigh requires ano-
ther remedy than in the breast, or o-
ther part, by reason of difference of
parts : so that you see all the differen-
ces and causes of Ulcers, &c. are to
be perfectly understood ; also the
right Method and use of suppurating,
deterging, sarcotic, and epulotic Me-
dicines ; and the reason of varying
of them, according to the Nature of
the Persons and Parts, Ages, Tempe-
raments, and other circumstances :
All which are acquir'd only by dili-
gent labor and study ; so that it is
but a Vulgar error to think that these
illiterate people can understand, or
do any thing considerable, in this wor-
thy Art of Chirurgery ; but only at
Adventure : For all they pretend to so
much skill by their Hyperbolical and
Romantic

The Preface &c.

Romantic promises, and pretences.
And now it is time to bid thee
Adieu.

Chirurgus

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Chirurgus Methodicus ;

OR, THE

Young Chyrurgion's
CONDUCTOR
THROUGH

The Labyrinth of the most Difficult
cures occurring in his whole Art;
and whereby he is distinguish'd
from Empyrics, and Quack-Sal-
vers.

CHAP. I.

Of the several Sects of Chirurgions.

BEfore we begin to Treat more
fully concerning the explication,
of the Nature and Excellency of
Method, and its *Indications*, &c.
you are to understand, that in the Art of
Physick, and by Consequence in Chirur-
gery

gery, which is subordinate to Physick, there are three sorts of *Sects*, whereof *Galen* makes mention in his Method.

Now a *Sect* is a Collection of Men, which are of the same Opinion; but different from others, and those in Physick are *Methodical*, *Empyrical*, and *Dogmatical*, or *Rational*.

The *Methodical*, are so call'd, because they use but few Rules, and Precepts; the which they judge sufficient: Wherefore they say that the life of man is long, and the Art of Physick short, and blame the admirable *Hippocrates* for writing to the contrary in the first of his Aphorisms.

These say that there are but three sorts of Diseases, to which the Body of man can be subject to: The first, by astringion of Atoms, or unseparable Substances; whereof the Body of man, (according to their opinion) is compos'd. The second, by Relaxation of those Atoms; and the third is compounded of both: in such sort as some Atoms, are relax'd, and some compacted more than either the nature of the Body, or the part requires. Now that you may the better be able to understand the nature of this *Sect*, you must know that it had it's Original from the Philosophy of *Democritus* and

and *Leucippus*, who were persuaded, by some apparent Reasons, that the Elements and Principles of all natural things were very small, inseparable substances, which they call'd Atoms, which had neither first, nor second, nor other qualities; but according to their several situation, and positions, all qualities had their Original; so when any hot thing became cold, that was because the Atoms, whereof it was compos'd, were alter'd and transported: Upon which foundation the Methodics constituting their Art, they say that these Atoms, are the Principles, and Elements of the Body of Man; and that the health is in it's Essence and Perfection, when the said Atoms are in a certain and measur'd distance and position, the which if it was alter'd by Approximation, or unmeasured distance, then succeeded two sorts of Diseases, and the third, of the said two being mixt, wherein is a relaxation of some Atoms, and a Constriction of others. According to this theory they founded their Universal Method, upon three Principles, which they call'd *Communities*; which were deduced from the general Principle of all the Art of Physick, which is, *That every thing is Cured by it's contrary*: The first of these is, that a Disease,

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ease proceeding from Astriction of the Atoms, requires relaxation: The second is, that a Disease caused from the relaxation of Atoms, requires Astriction: And the third is compos'd of both: then making many other particular *Communities*, whereof *Galen* makes mention often in his Method; as that a simple Ulcer requires Union, an hollow one repletion, and an Ulcer with excrescence of flesh demands it's Consumption, and so of the rest. Now these *Communities*, though they are the first Judications, yet they are not a part of Surgery, or but a very little one; because they are known to the very Vulgar, of which more hereafter. Wherefore this Sect is often reprov'd by *Galen* the Prince of Physicians, next to *Hippocrates*, in the third book of his Method.

Themison began this Sect; of whom *Juvenal* speaking of old Age, says it brings with it, as many Diseases, *Quot Themison agros autumnos occiderit uno.* *Thessalus Trallianus* compleated it: After whom were *Dionysius*, *Antipater*, *Aphrodisius*, *Ephesius*, now of this Sect there are but few now a days.

The second Sect is call'd *Empyrica*, which took it's Name from experiments, because your *Empyrics* condemn all Reason, saying, that the Nature of Humane bodies and medicines
are

are inscrutable and incomprehensible by Humane reason; which they say evidently appears, because the most famous and excellent Philosophers and Physicians, that ever were, after great labour, and most diligent inquiries, could not comprehend what the body of man was compos'd of, nor other things produced by Nature. For if their Reasons, who say, that the body of Man is made of the four Elements, be well weigh'd, they may be found probable, 'tis true; but they will not be found to be necessary and inrefragable. And so the Opinion of *Democritus*, and *Asclepiades* is probable; who tell us that all things consisting by nature, are composed of an infinite number of Atoms, of the like Nature, Name, and Reason. From this controversy and contrariety of opinions, between such excellent Philosophers as *Hippocrates* and *Asclepiades*, concerning the first structure and composition of Humane bodies, the Empyrics conclude; that he would be accounted but a rash Person, that should dare to undertake to be Judge of the truth of their judgments. Wherefore, according to their judgment, since it is so that our Nature is unknown, it is better to follow and observe Experiments; and to build the Art of Physick upon things known by our Experience; mis-

prising the Knowledge given us by reason of the Elements, the Temperaments, &c. or from Diseases, and their Causes, and Remedies.

The Empyrics then constituted their Art of four things ; of *Nature, Fortune, Revelation,* and *Imitation.*

As to the first, The Empyric seeing a man taken with a vehement Fever, towards the removing of which he ordered no remedy ; and yet it terminated by a bleeding at the Nose, or some other part ; which proceeded from the strength and providence of Nature ; than he judges and reserves in his Memory, that to a man taken with such a like Fever, *Phlebotomie* by Art, must needs be necessary, or at least conducive. In like manner the Empyric, takes part of his Theorems from the observation which he makes of the Nature of Brute Beasts ; as when from the Imitation of the Stork, he makes use of Clysters. Also when he useth certain Medicines, which he hath known to be profitable against Venome ; the use of which he was shewn by Beasts.

Then for the second, If any one being troubled with a pain in the hinder part of his head, by *Fortune* fell upon some stone which caused a Flux of blood from the forehead Vein ; by which his pain was appeas'd, then

then the Empyric, being taught this by *Fortune*, deduces a Theorem of his Art, that Phlebotomy in the *Vena Frontis*, is profitable for a pain in the hinder part of the head : and if you shall tell him that *Hippocrates* hath made an Aphorism concerning the same ; he will answer you, that *Hippocrates* had the knowledge thereof, not by Reason, but by Experience alone.

Concerning the third, That which they knew from the *Revelation* of their Gods, or their Masters, or from Dreams, (which *Galen* did not always condemn in the Cure of Diseases,) was a Rule to them, chiefly when they had submitted it to the Touch-stone of Experience, which they had found conformable to them.

For the last, the Empyrics make mutation and imitation from the similitude of one disease to another, of one part to another, of one remedy to another, from some likeness inducing them thereto : The which we see done often ; as when they learn'd the use of *Ung. Sarracenicum*, in the Cure of the Venereal disease, which was first invented for the Cure of the Itch, &c. a long time before the said disease was so common : and we do so likewise, when in malignant Ulcers of the said disease, in the *Fauces*, we open the veins under the Tongue

after having open'd the cephalic, which hath been found to be profitable, as in *Angina*.

All which may be exemplify'd in several particular Cases which I omit, to shun multiplication of words without necessity. This Empyrical Sect, misprised the Anatomical Art of Humane Bodies; as their Brethren the Empyrical Chymists do at this day, against the opinion of the Dogmatics, as a thing execrable and cruel, which hath always been (according to what shall in the next place be prov'd by the Dogmatics) of grand efficacy in the Cure of diseases, and for several other Reasons brought by *Galen, de usu partium*, l. 17. c. 2. and alleged by Authors in Chirurgery.

The chief of the Empyrics were *Acron Agri-
gentinus*, from *Pliny*, l. 29. c. 1. *Philinus Cous*,
whom *Serapio* follow'd as *Celsus* says; *Apollo-
nitis*, Father and Son, *Glaucius*, *Menodotus*,
Sextus Heraclides, &c. but *Crito*, *Philiskrio* and
Serapio, were after, as in *Lib. Introductor*.

The third Sect, is that of the Dogmatics; these enquire by Judgment and Reason, into the first Composition and true Elements of Humane bodies, besides the sinular Parts which are the sensible, but not the true Elements of the said Body; into the Temperaments proceeding from the diversity of mixon of the Elements; into the faculties proceeding from the
said

said temperaments and their operations; into the Nature of diseases; their Causes, and Symptoms depending upon them, and by which they are known. Then they make enquiry into the Nature of Simples; and the manner of compounding them by Art; the fit time and right use of them, which are things that require a long time; and the which to comprehend, the life of one man alone would not be sufficient, if it be compar'd with the invention of them; wherefore *Hippocrates* said most rationally, that Man's life is short, and the Art of Physick long; the which is not to be understood in a strict Sense as many do. For he does not mean, that a man cannot, with help of the Labors of the Ancient Philosophers, and Physicians comprehend the Art of Physic; but that he cannot, by reason of the shortness of his life, invent it and acquire it compleatly without help.

And now, although reason for the most part, be the director of this Dogmatical Sect, and the Dogmatics; yet if they know by experience, some Medicament, of the effect and virtue whereof no Reason can be given, (as are those which operate by an occult quality) they do not reject the use thereof, but accommodate it to their Art, to render it thereby the more rich, and abounding in remedies,
and

and thereby the more easily to attain to the pretended end of their Art ; which is health.

The Prince of this Sect, as the most excellent was *Hippocrates* the Oracle of Physic, then *Erasistratus*, *Diocles*, *Herophilus*, and divers other great Philosophers, well exercised in Natural Philosophy : the chief of which and most praise worthy of all, next to *Hippocrates*, was *Galen*, who with his most learned Commentaries hath explicated *Hippocrates*, distinguishing things that before were confus'd, and supplying what was wanting, so that he may deservedly be called the second Prince of Physicians.

These say, against the opinion of the Empyrics, that Anatomy ought to be practised, even sometimes upon living bodies: The which *Herophilus* did, who obtain'd, from Kings, men that had merited death for their Crimes, and dissected them alive, thereby to know several inward operations, which are abolished in dead bodies ; as the inward motions of the Vital Parts, the *Diaphragma*, Lungs, &c. of the Comprehension which the stomach makes of the Food, while it transinutes it by is coction. And they say that it is laudable, by the torments of a few wicked Men, to profit the health of innumerable Virtuous

ones.

ones. And it's very like that they gave them some Narcotic, or Stupefactive Medicines, to abolish or diminish the Sense, and consequently the pain; which hath been sometimes counselled to them that were to be cut for the Stone in the Bladder. The Dogmatical Physicians, Anatomize dead bodies also, thereby to acquire the Knowledge of things of grand import and profit, in the Art of Physic; as

First to know the substance of each part; as that the heart is of a Musculous substance; the livers substance as it were blood coagulated. Secondly, The quantity of a part; as that the Liver is of such a magnitude and greater than the Spleen. Thirdly, to know the relation of the parts; as that there is a communication between the Stomach and the Brain; and likewise a Sympathy between the Orifice of the Stomach and the Heart, by reason of the *Arteria Aorta*; which, mounting above the Spina, associates it self with the said Orifice: And from this Theory proceeds the Knowledge of diseases which come by consent, and which are Primary; which is a thing that imports very much towards the Cure of diseases. Fourthly, To know the quality or temperature of each Member, by the help of reason; as that the Liver is hot and moist; because it's of a sanguine complexion

14 *A Supplement to Brugis's*

plexion ; as that the bones are cold and dry because they are exsanguos. Fifthly , to know the number of the parts ; as that there are two membranes of the Stomach, six lobes in the Liver, two Lungs, &c. Sixthly, to attain to the knowledge of the figure of each part; as that the Liver is partly hollow ; and in the other part where it reaches to the *Diaphragma* 'tis Gibbous : As also Seventhly, to know the Action and Profit of the parts, as that the Heart is the Principle of the Vital Faculty and Motion. Likewise that the bones, although they have no action, yet they are of profit to the body, either to sustain it, or defend the Noble parts, as the *Cranium* does the *Cerebrum*, and the Pectoral bones the vital parts. Then Eighthly, Anatomy serves us whereby to know the Situation of the parts of the body ; as that the Liver is situate in the right Hypochondria, and the Spleen in the left, &c. Ninthly, It helps us to know what part is affected and offended in a disease ; as that the Yellow Jaundies proceed from the Liver, and the Black from the Spleen ; the Pleurisy proceeds from the membrane adjoining to the Ribbs, &c. which were all Collected from the documents of the great Physitian *Galen*, by *Alexandrinus* a learned commentator upon *Hippocrate's* book of

Popular

Popular diseases. Lastly, it is from Anatomy that all the chief improvements have been made in Physic; as the circulation of the Blood, &c. as Dr. Goodal hath learnedly demonstrated against the *Chymists* at this day. And now because this best of Sects proceeds by method in the Cure of diseases, and by consequence by Indications, which are sometimes Simple and sometimes Complicate; let us now treat of them, succinctly and in Order.

CHAP. II.

Of Method, Indication and Complication.

Method then is, as it were, a conduct or safe and sure way, whereby to come to some Intention: Or, according to *Galen*, it is an Universal way to attain to the truth which is common to divers particular things. Now to the constituting a Method of curing diseases, there are two things required: A direct order of Indications; and an artificial and legitimate administration of Remedies.

Indication then is an insinuation, sign or instruction of what is to be done: So that
Indication

Indication shews the invention of that which is to be done : for to invent a thing by Indication is to begin at the Nature of a thing ; then to invent without Experience, that which is consequent to that Nature. Now the invention of things found out by Indication, is founded upon four general Rules, whereupon depends the whole Art of Method : Whereof the First is, *That that which is according to Nature requires or indicates its conservation.* The Second, *That, that which is against Nature, indicates its Ablation.* The Third, *That conservation is perform'd by things of a like Nature.* The Fourth, *That Ablation is caus'd by things of a Contrary Nature.*

Now these general Rules are particulariz'd according to particular or special Indications; as that an hollow Ulcer indicates repletion an hot intemperature refrigeration, and each of these special Indications are deduc'd from the two general ; then indication is taken from each of the three things, upon which all speculation in Physic is founded ; that is first from things Natural, as the faculties of the Body, &c. Secondly, From nonnatural things, as the disposition of the Air, &c. Thirdly, from things against Nature, as Diseases and their Causes, &c.

As for Complication that's an *Aggravation* of several things, whereof each proposes it's *Indication*: By which definition you may perceive that complications are not mentioned but in regard of Indications. And as Indications are taken from things *Natural*, *non Natural*, and *contranatural*; so complications are taken from the said things, and in several manners. First, From things natural, and unnatural; as from the faculty, and the disease: Secondly, From things Natural and non Natural; as from the Temperament and Complexion of the Patient, and from the disposition of the Air which encompasses us. Then from divers things against Nature, as in wounds and apostems, as an Ulcer with a *Varix*, *Fluxion*, or Distemperature. And as concerning the complication of a disease with a Symptom, that is reduc'd under the complication of a disease with it's cause: For a Symptome, as a Symptome, indicates not; wherefore it cannot be said to be complicate; but is as a cause when it exceeds. And because it is not enough to know these things by Theory only; but that we must accomodate them to the practic part, which is the end of the Theoric; we must therefore, in all our practise, regulate the aforesaid things by certain Rules deduc'd from *Galen* in his Seventh

venth Book of his *Method* to accomodate them to practise.

We must then consider in complications, the most urgent thing, the Order, and the cause. This Artifice is of grand efficacy; and is as it were, a thred to lead the Artift out of the Labyrinth, or intricate and confused Maze of complications; which otherwise are very difficult to regulate, chiefly to your Empyrics: First then you must consider the most urgent; which is that whereupon depends most danger: As if there be a complication of an Apostemation, Flux of Blood, Intemperature, Convulsion, Pain and Ulcer, then if Convulsion be the most urgent, you must first direct your intention to that, without neglecting your other Indications: And as there be several Indications, whereof one is most material, so must your remedy be contriv'd, as having always respect to that. Secondly, You must consider the Order of complicated dispositions: For sometimes their Complications is such, that one requires to be removed before the other, and nothing can otherwise be done; as when an Apostem and an Ulcer happen to be together in one part, it is necessary in the first place that you remove the Apostem; for he that shall attempt to Cure the Ulcer first, will attempt
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an impossible thing, in regard of the Order that belongs to such dispositions; because the removing the Ulcer cannot be accomplished, except the part which it possesses be healed; which can never be effected as long as there is an Apostem. Thirdly, When there are several dispositions complicated, whereof one is the cause of the other; you must, in the first place, follow the Indication of the cause before that of the effect; which is always *Galen's Document*; but chiefly *l. 3. Artis medic.* As when there is complication of a *Varix*, *Ulcer*, and *Fluxion*; you must direct your first counsell to the *Fluxion*, removing the quantity or quality, which caus'd it; and then you must betake your self to the Cure of the *Varix*, and lastly, of the *Ulcer*, of which more following.

CHAP.

CHAP. III.

A more particular account of the premises ; and of the first Indication.

YOU must know then besides what hath been said in general, in the former Chapter, concerning Method, that there be several sorts of Methods ; some are proper to the handling of Sciences, and are divided into three kinds, *viz.* when you treat of Sciences by way, either of Composition, call'd in Greek *Synthetic*, in proceeding from things simple to things Compounded ; or by way of dissolution, nam'd by Greeks *Analytic*, contrary to the other ; or Lastly by the way of Division and Definition ; which they call *Horistic* in Greek ; the which kinds of Method are comprehended by *Galen* in his little Book *de Constitut. Artis*. The other kinds of Method belong to all sorts of Affairs which are in the management of Man ; as the Method of building an House, &c. but the curative Method and sure way of healing is that which is guided by Indications.

Now

Now this word Indication is proper to Physicians only, and out of the common use of the Vulgar; for every Art and Science hath it's proper and peculiar Manner of speaking, which is not common to others. Method then of curing diseases is conducted by Indications, two manner of ways; *viz.* by the means to find them out, and by the means of curing by them. The means of finding them out, is by the Art of Division; for you may divide them into two manners; but the most common is into three kinds; in dividing each into several particulars. The first is concerning things Natural. The second, of things Non-natural. The third is of things against Nature; although *Galen* reduces the two first into one, *l. 3. Meth. c. 8.*

Things Natural then indicate, to the Artist; that they ought to be conserv'd, by their like; and from this kind the Indication is call'd Conservative; although it be serviceable towards the Cure. As for the things Non-natural they indicate almost the same thing. But then things against Nature they indicate to be removed or prohibited, by their contraries: Now such Indications are of two kinds; for if they be taken from external and primitive Causes, not permanent, because they admonish us to preserve our selves, they

22 *A Supplement to Brugis's*

they are called by *Galen l. 4. c. 3. Meth, Preservatives* ; although he dare not call them properly *Indications*. But if they be taken from the *Effence* of the disease, or from internal causes, as well antecedent as conjunct, then they are truly and properly named *Curative*.

Now there are several kinds of *Conservative Indications* ; some regard the strength and faculty of the Person ; to conserve which you must often omit the principal Cure. Others have an eye to the Natural temperature and complexion of the Body ; from whence they take the Name ; making us to consider whether the body be hot, or cold ; dry, or moist, simply : Or whether it be hot and moist together, or hot and dry ; or cold and moist ; or cold and dry. Moreover whether it be *Choleric*, or *Melancholic* ; *Sanguine*, or *Phlegmatic*. Others consider the habitude, whether it be, delicate, fine ; a little Body, or a corpulent and robust, &c. others are concern'd about the Nature, and Complexion of the part where the disease is, from which part the Artist may deduce several indications ; as from it's substance, whether it be similar, or organic : If similar, whether it be hot, cold, dry, or moist ; or hot and dry, hot and moist, cold and dry, cold and moist :

And

And whether it be soft, as the flesh ; or hard, as a bone; &c. If Organic, whether it be Principal and Noble, or as a Servant and less Noble; or not Noble at all. In like manner you are to take Notice of it's habit ; or to speak better, with *Aristotle*, of it's natural strength, or weakness ; as of it's sharp and delicate sense ; or it's dull or slow feeling : As *Galen* writes *l. 4. c. 7. Meth.* Also you are to take your indications from it's Essence and Composition, viz. from it's form, figure, magnitude, number of it's Parts, of it's Relation, and Situation, and lastly, of it's actions and use: for from all these things ought the Artist to take his Indications in the Cure of the disease, which happens to the said part, to conserve it in it's Natural being, by removing that which is Contra-natural to it: and here one might comprehend with this first of Indications, that which the Artist takes from the Sex, because it is almost one of the things Natural.

CHAP.

CHAP. IV.

Of the Indications from things Non-Natural

THe Indications from Non-natural things, and which are without the substance of the person, are likewise of several sorts : For some concern the Age, which is nigh a kin to the things Natural ; others bear the name of things which are altogether without the Nature of Man, viz. the Air, as well that of his Nativity, or Country, as that where he lives, and is habituated to it: Likewise the season of the year; as also Education and Custome. From which things, as if they were Natural that is of the natural substance of the Body, the intention is to conserve them; and not to give to the patient things contrary to them.

But here you are to remark that these Indications of the things Natural and Non-natural, tend to some other end than to conserve them by their like : For they are also to be considered and taken with an intention to shew and advise the Artist, whether he may use the same Medicaments and the same means

means to Cure the same disease in a diversity and difference of the aforesaid things : And so upon this account they are also called curative Indications. For they make the Artift to understand and distinguish the diversity of Cure of the same kind of disease, in divers respects, and according to the difference of complexions of Bodies, parts of the Body; of the age and custome, &c. as before said, whereof they are Indications, and Signs ; and give us to understand, that besides that there happens sometimes that the disease it self, is not only not curable in all complexions, in all Sexes, in all Parts, in all Ages, in all Seasons, in all Airs, in all Customs and manner of Living ; but also where it is curable ; yet it is not so by the same means. For, in truth there are some parts, and some persons, some Airs, and some Seasons, or dispositions of times, where the same Malady is curable ; and where it is not. As for example, an Ulcer in the Lungs, or in the Nervous part of the *Diaphragma*, or within the Eladder, can not be cur'd, by reason of the part they possess. The same may be said of the Region, or Country where some diseases are more difficult to be cur'd than in others. And so, many diseases are curable in young. which are not in old persons. For the sea-

26 *A Supplement to Brugis's*

son it is clear, some diseases are sooner cur'd in one than in another, and so the ingenious Artist may judge of other Indications.

Now concerning those diseases that are curable, but not always by the same means; to clear this point, let us suppose the Artist had a Patient of a cold, dry and melancholic Complexion, of a thin, little Body, accustomed to study hard, and dwelling in some solitary place, and in a cold and unhealthful Region; in a darkish and unpleasant house, using a gross dyet: and this person hath a tertian Fever, in Winter, or an Ulcer with a Flegmon in his Eyes, or some other Universal, or particular disease. Then suppose he hath another patient, of another Age, of another Natural complexion, &c. having the same disease, either in the whole body, or some particular part, but in another season; the same disease is not curable by the same means, used to the one as to the other. For there is a grand difference in all Indications, as well from things Natural, as Non-natural.

Or, to pass by so many differences together, let us but take one in each Example, and put the case all other things are a like, and agreeable; put the case I say the Artist had a man and a woman who were troubled with the same universal

versal disease, as a Fever, for Example; or some particular disease; these diseases must not be cur'd in one as in the other; because they are of a several temper, by reason of their Sex. So likewise in a soft and delicate body, &c. the disease is not to be cured by the same remedies as in an hard, robust, rustic one. For so many differences of habits, so many differences of Medicines: Likewise it is not possible that a Fever of the same kind, or an Ulcer, or another disease in a Phlegmatic body should be cured after the same manner, as in a Choleric one; or in a dry, as in a moist body. For different complexions require different remedies.

Then for the difference of parts, take two men of the same complexion that are alike in all things else, that have the same kind of disease in several parts; now this is not to be cured in the one as in the other; no though it were in the same one man. For each part is to have it's proper remedy; and as many things as are to be considered, as well in a similar, as an organic part; so many are the Indications thereof, and by consequence so many medicines convenient for them. For an Ulcer in the Eye, is not to be cur'd as an Ulcer in the Ears; nor a Flegmon in the Throat, as in another part: The Artift must

not repercuss it in the beginning, when it is nigh a noble part, as when it is far from one. A solution of continuity is not to be cured in a nervous part as in a car-nous one; in a dry part, as in a moist one.

As to the Indication of the season; suppose the Artist hath under his hands the same disease in the same parts, or in the same Complexions of patients; but in several seasons: he cannot cure this disease after the same manner and with the same Medicaments: For each season or disposition of times requires its Medicine to be different from another. The same may be said of the Air, whether Natural or other. If any one finds himself sick in another Air, than that of his own Country, or of his ordinary habitation; he cannot be cured by the same means, not taking Indication from the difference of Airs.

The Indication of the State, Custome, and Fashion of Living, brings much difference to the use of Remedies; for the same disease is not to be handled after the same manner in one of the long Robe; as in one of the short, as they say, in a Citizen as in a Country man; or in a Carter, or Mariner, or Soldier: In one that is accustomed to the cold, as in one us'd to the heat; in one that

is always us'd to drink Wine, or strong Beer, or Ale; as in one that never drank any; although they were of the same Age, and had the same disease, in the same time; and differing nothing in other things.

Then for those that differ in Age, and have the same disease; a young man of the same City (put the Case, he were alike in all things, as well Natural as Non-natural, to a man of another Age, although all these resemblances cannot be) nevertheless by manner of example, hath the like disease, even in the same part of the body; it is not possible that it should be cur'd by the same Medicines in the one as in the other; because there is need of as many Medicaments as Indications; and each Age hath it's Indication. And yet sometimes may happen a thing that will seem strange, and which is very curious; which by reason of the difference of the Age, the contrary complexions, as well of the body, as part affected, hath a Relation, as it were, to a like complexion, and may correspond to the same means of curing: As suppose an old man, hot and moist of bodie, who hath an hollow Ulcer, in a part of the same temper: and suppose a young one to the quite contrary, whose body is cold and dry, having in a part of the same temper,

per, such a disease as the other; you'll ask me, must I apply the same Medicament to them both? I answer, perhaps yes; provided that the heat and moisture of the one, in regard of his old Age, shall not in any thing be different, from the qualities of the other, by reason of it's youngness: It being probable, that the qualities of the young man are not so cold and dry, that they be not so hot and humid, as those of the old mans who is of an hot and humid Complexion.

CHAP. V.

Of Indications from Contra-Natural things.

THese are properly those, which are called curative; and are of several sorts. Some are produced from the Essence of a disease, whether it be homogeneous and simple; or heterogeneous and compound; others are deduc'd from the cause a disease; as well antecedent, as conjunct. Others proceed from the Symtoms or Accidents which accompany the said disease: all which Indications signifie to us that the Intention of the Cure

Cure ought to be accomplish'd by the using of things contrary to the disease, it's causes and symptoms.

Now I divide these Indications into some that are taken from things within, or from the Essence of the disease; and those without it. Those from within are of two sorts; the first is proper to the name and definition of the disease; which sort is general and common to the whole Cure of the disease: The second, to the differences and accidents of the disease, as well separable as inseparable; and this is proper and particular to the said Cure. Those of the first kind are Universal and limit not, nor shew us neither the means, nor the possibility (if there be any) to come to the intention of the cure: As for example, when I suppose that the disease is an Ulcer, without adding the differences thereof, the true and proper intention signify'd by the said universal, and first Indication of the said Ulcer, is that the Artift must dry, and unite it by a desiccative and agglutinative medicine; but the said Indication neither limits the means, nor the possibility, how, by the said Medicament, we should come to this Intention. Now those of the Second sort, which I said were particular, limit and specify; not only the said disease; but the Medicament.

dicament proper to Cure it: As the Indications taken from the longness and largeness and profundity of the Ulcer: It's figure, situation, streight, or oblique, high, or low; it's equality, or inequality, &c. and certain other proper differences of the said Ulcer: And so do likewise the Indications which are taken from the Antecedent or Conjunct causes of a disease, or from the Symtoms thereof; and amongst others those which *Hippocrates*, as *Galen* says, is the first Inventor the which are taken from the greatness and vehemence of the disease.

The Indications which I call from without are likewise of several sorts. For I divide them first, as the Rhetoricians divide the Reasons of praise, or dispraise; into two kinds: The one of which they take from the Topics of the persons; the other from the Topics of the things which are without the persons. The Indications taken from the Topics, and persons, are those which we discoursed of before of things Natural; and almost Natural; as the Complexion of the body, it's strength and natural Habit; Sex, Age, Education and Custome: as also of the temperature of the part, it's composition, that is to say, of it's substance, form, figure, magnitude,

include its situation, and relation, of its feeling, whether acute and delicate, or dull and gross. Of its action and profit, &c. the Indications brought from the Topics without the person, are the other circumstances which are called Indications from things neutral, which are neither Natural, nor Contranatural; that is, which are neither of the substance of the person, nor of the disease; as the time, season of the year, Air of the Country, and abode; and the Air which encompasses the patient; with the temperature of each of all these.

Now all these Indications abovesaid taken from without, as we said of those of the Second sort of those from within, which are taken from the proper differences of the disease, are then called particular, when they are joyn'd to the said disease, as circumstances thereof: Which as soon as they specify, limit and determine the same, and render it particular, do also determine, particularize and modify the medicament; which otherwise was indetermin'd and common to the said disease. Wherefore as the Grecians call a *Thesis* an Universal proposition, undetermin'd, and not restrained to any circumstance. And the same proposition, an *Epithesis*, when some circumstance is supposed, whereby it is limited,

limited, as a certain person, time, place, or other thing: So we may suppose the disease, as a *Thesis*, which is not limited, or determined to any Circumstance; but is considered generally and universally; and that Indication taken from it, we may call *Thetic*, that is, absolute and positive; that is, without any regard of any special thing, the which, for this reason, shews us neither the possibility, or impossibility to remedy the said disease; and determines not the proper remedy for it. And I call the said disease, as it were *Hypothesis*, when there is supposition of any of the Circumstances aforesaid, by which it is limited and particulariz'd: And the Indications proper for the Cure thereof I call *Hypothetics*, and suppositives; and the which being taken from the said Circumstances and Differences, specify, determine, and modify that Medicine, which is convenient for the disease, and declare the possibility or impossibility of curing it. Wherefore, to be short, I distinguish also the names of all the Indications aforesaid. Those which are taken from within; from the pure essence of the disease, and not from the differences, causes or symptoms and accidents thereof; we may truly call them the primary, but not the principal Indications of the cure of the disease: Com-

mon Indications, general Indications, or universal Indications of the cure : Indefinite Indications, and without regard to any difference, as Circumstance ; Thetical *i. e.* positive Indications : Indications which universally and generally shew the Cure of the disease, not limiting or specifying the remedy ; that is, not declaring the manner if it be possible, or impossible to remedy it.

Now those Indications which are taken from within, but from the Causes or Symptoms of the disease ; and all those taken from without, are called second Indications, and yet the principal in the Cure of the disease ; proper Indications, particular Indications, special Indications, hypothetical Indications, that is, Indications in the Cure of a disease, wherein we suppose some Circumstances and certain things to be joyned thereto. Which Indications, demonstrate in particular, limit, specify, modify and appropriate the remedy and medicine, which otherwise was undermin'd and general for that disease, and not agreeable to any difference thereof, nor to any person. And to speak more clearly and summarily, they are Indications of possibility, or impossibility ; that is, of the manner how it is possible, or not, to accomplish the intention of the first Indication.

And now having cleared, as I hope, and made easy, this doctrine of Indications, which you may perceive is of so grand concern in the Curing of diseases, methodically and not empirically; yet some may think it strange that we should trouble the Artist with such a number of them in the Cure of a disease; since several, that have the repute of able Physicians, make use but of one, and that is, that which is taken from the essence of the disease; from which Indication, the Scope and Intention is to cure the said disease, by it's contrary; as Reason guides us; and it is the common opinion of the two grand Luminaries of Physic *Hippocrates* and *Galen*; so that it must follow that this Indication alone deduced from the essence of the disease, will be sufficient to find out the means to Cure the said disease, without any other.

But I answer, the Consequence will not hold good; for the agreeing to that which so many great persons say, and not denying, but that it is rational that the disease should be cured by it's contrary; must not therefore cause you to infer, that the Indication taken from the essence of the said disease is sufficient: Which being admitted for necessary, will not take away the necessity of others. We hold this Indication for the Primacy, as

I said

I said before, and not the principal. For, as *Galen* says, it indicates not the means, whether it be possible to cure the said disease, or no; as the others do; the which for this reason, are the principal and necessary. And as Philosophers, to conclude their Questions, use several demonstrations and arguments necessarily probable; and your Orators use all sorts of proves, whereby to come to the Consequence of their purpose; and to close up their orations; so Physicians, to attain to the Intention of the Cure of a disease, make use of all sorts of Indications; and must not be regulated by the example of Vulgar Physicians who vaunt themselves, to be Methodists; but are in a great Errour, and endanger their Patients, by following and observing, this one Indication alone, taken from the Essence of the disease; being mistaken for want of understanding that common Maxim, aright (*viz.*) that the contrary is cur'd by the contrary, &c. For this Maxim comprehends, that there is a necessity of following and observing other Indications also, which shew us several means to attain to the Cure; as may be proved from that great Physician *Galen*, concerning which hear what he says.

The first Indication (says he, in the beginning of the third and fourth of his Method) is not a weighty part of the curative part of Physic, but the beginning only, and foundation thereof: Neither indeed, is it a thing proper to Physic, being common to simple People, even to Children. For in this Indication is neither any Art, or Cunning; nor any other Ingenious matter, that is not wholly common and manifest to every one. For the simple Mechanic and ignorant people, if they feel or perceive any member out of it's Natural place will tell you that it must be reduc'd to it's Natural place; and they can tell you also that an Ulcer must be clos'd up: That a Flux must be stop'd; but they know not the reasons and means by which these things are to be accomplish'd and put in execution. And it is this which ought to be ordered by the Physitian the true Curer of the disease; who alone is able to invent the things, by which shall be accomplish'd that which is insinuated and given us to understand by the first Indication.

These are the Golden Words of the second Prince of Physitians: And all these reasons and means, which the Physitian must invent to come to this intent; or to know if the disease be possible to be cured or no, do we find from the particular Indications aforesaid, as well of things Natural and Non-natural, as Contra-natural; which restrain
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and limit the first Indications being joined with it.

And now by this discourse of Indications I hope the Artist will easily perceive that the Method of Curing is guided by them; and that the Cure of diseases is the work of reason chiefly, and not experience: For, as is said before, although your Empyrics, and little sort of people, say well, that all solution of Unity requires Union; and that to every disease, it's contrary is requisite; yet it is the work of an able Philitian to know, whether the said Union to every solution of continuity be possible or no; and if it may be accomplished in all the parts of the body; or if in some it cannot.

For every Natural thing being alienated from it's own Nature and Degree of perfection, requires, by a certain Natural Instinct, as it were implanted in it, a reparation, restauration or restitution, and to be replaced in *Statu quo prius*; that it may thereby conserve it self, until it's Period allotted it by Nature, which is insupportable: Though Natural Beings may come to their end by violent causes, before the time of the said Period. And when Nature hath accomplished this reparation equal to that which it lost; she hath then arriv'd to her first intention.

But

But if this Natural Being, be not so happy as to replace it self in it's first degree of perfection; but shall search out other means that shall come nigh to this restitution, and she shall attain it, then we say she hath restitution made her, according to the second Intention; being disappointed of the first. As for example, when there happens a deperdition of the substance of a bone; Nature without doubt, endeavours all she can to have a bony substance restor'd her in lieu of that she both lost; but being frustrated in her design, or not being able to attain it; what does she do, but goes another way to work, and creates a certain substance in the place thereof called a *Callus*; which she makes of part of the nourishment due to the said bone; and this she does, not by her formative, but nutritive faculty; being Deputy to the formative Virtue, being absent; and in case of necessity, executing an Office, not proper or essential to her, for her duty is to repara that which is consumed by the Act of the Natural heat.

For, as the same Galen says, *loco citato*, The common and simple People are ignorant, that the nervous part of the Diaphragma being wounded, cannot be consolidated; That the prepuce cannot be united; if cut a sunder; if putrefaction, or

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rottenness in the bone, be curable, as well as cro-
 sion in the fleshy: If a Fracture may be united as a
 wound: Or whether the said fracture may be uni-
 ted by a Callons substance. Moreover, they under-
 stand not, if in fractures of the Skull, we must
 attend the generation of a Callus; or if it may be
 cured, after another manner: And to say all in
 a Word, your common people understand nothing
 besides the first Indication; and all your Em-
 pyrics know not much more, although they make
 great boast of their experience; which though it
 be one of the two Instruments of all Invention, yet
 it cannot, like Reason (which is the other Instrument
 of Invention) find out, nor shew us the substance
 of the part where the disease is, nor it's Action, or
 it's use, or utility; nor it's situation, or connexi-
 on, nor other things from whence we take our
 particular Iedications; by means whereof every
 rational and Methodical Physician is able to foresee,
 not only diseases incurable, but also those that may
 be cur'd, and the remedies wherewith they are
 to cured.

By this learned, profound and curious dis-
 course of Galen, the Artift may plainly see that
 the means of the Emphyrics and Quacksalvers
 bragging and boasting of their grand cures,
 and their vaunting themselves to be as know-
 ing and expert as the Methodics, is remov-
 ed out of doors; because the Indications and
 Reason

Reason are the only means which separate them, and make a difference between them. As for their experience they may brag of, Alas, it is not made from one or two, but confirmed by a long tract of time, in many patients of both Sexes. As for Example, it hath been experienced that a Cancer was cured in a certain Woman, with leaves of Nettles, bruised with common salt; but therefore it will not follow this is approv'd of by experience; for apply'd to several others it wrought no effect.

And hitherto have we explicated the means how the Artist should find out his Indications; by which he is to be guided; having declar'd first what an Indication is; next how many sorts the Artist is to make use of; in his conduct of curing diseases; Which is the first and general: Which are the second and special ones; and which are the principall: So that it is time now to let him know how he may use, and help himself, and patient by the said Indications.

CHAP. VI.

*Of the use to be made of the aforesaid
Indications.*

THE means how the Artist may know how to make use of the aforesaid Indications are two-fold. The first is treated of in a general way, by certain Rules of each Indication, considered by it self, without conference, and in a special manner by example in each kind of disease, as by Examples in Ulcers, we shall declare to you presently; when we shall speak of the Curative Indications of Ulcers. The second treats of the Conference and Excellence of the said Indications concurring in one disease. We shall wave, for the present, the first means of using the Indications, which treats of the Rules of Indications considered simply and by themselves; and come to purpose to enquire into the Excellency of those that coming to rencontre one another are of different and contrary Natures, either in a simple and sole disease; or in a compounded or complicated one.

And

And here it seems that the great *Galen* gives us a light into this enquiry, *l. 3. c. 9 Method. Medend.* in which place he says, that it often happens, that contrary Indications will meet at the same time : And also all that is insinuated by them is put in execution, at the same time : Hereby giving us to understand, the contrary Indications taken from things Natural, Non-natural and the disease. Then he says, a little after, that it happens sometimes, that that which is insinuated by divers Indications, cannot be accomplished at one time ; signifying thereby, as may be supposed, the Indications taken from diseases complicated together ; which require to be cured in order, one after another, except some one must remain uncured : and so, as to this one enquiry, I shall answer, as if they were two enquiries : The one concerning the Conference of Indications contrary to things Contra-natural ; the other as concerning the Excellency of Indications, of things as well Natural and Non-natural, as Contra-natural.

As to the first, I thus distinguish ; either there is another complicated, urgent and perilous disease, or not ? If there be a complicated, urgent and dangerous disease, it Indicates to us, that it is our business to begin
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the cure with it, notwithstanding that by this means there remains one incurable; or that we are constrain'd to make another which will remain without being cured. For the disease that is urgent and perilous, is sometime of such sort, that to cure it we are forced to leave another disease incurable: And sometimes there is a necessity that the Artift himself procure, the said disease, although himself cannot cure it. As for example, if the head of a Muscle be prick'd, and there follows a Convulsion, which he cannot possibly come at by Medicines, that by cutting the Muscle transversly he cures the Convulsion; but then, at the same time, he deprives the part, where the Muscle is, of voluntary motion. Also, if in some great Joint, there be a luxation or dislocation with an Ulcer; if you try to reduce the said luxation or dislocation, there will immediately follow Spasmes and Convulsions, which are very dangerous diseases. Wherefore, to prevent the said Convulsions, we must imploy our utmost skill to cure the Ulcer, and leave the luxation without being cured. But when in Complicated diseases, we are not press'd, nor drawn aside from the principal Cure; that is to say, from the disease propos'd, we must observe this order, viz. following the Indication of the thing

thing which hinders most the principal Cure of the said disease; and the action of Nature, we must Cure that thing first: then the other (if there be several) by the same order and reason, so that none shall remain uncur'd.

As to the other enquiry, which was made concerning the conferring, or comparing of several Indications, which entercombat and are opposite among themselves; as well of things Natural, as Contra-natural and Neuter; how these I say may be follow'd and dispatch'd at the same time; I shall illustrate it by examples: As suppose an ancient man that hath been accustomed to strong drinks, and to eat often in a day, when he was in health; is now seized upon by a Fever; and that, in regard of the Fever, strong drinks, and often eating is contrary to him; but in consideration of his Age and Custome, they are necessary for him: behold here are three Indications disagreeing and contrary (*viz.*) two of the things almost Natural, *viz.* the Age and Custome; and one of the things Contra-natural, *viz.* the Fever; whereof the two first are Conservative, and the last Curative: Among which there are such contrariety, as that the Fever refuses the meat and drink; old Age rejects the often eating and not the drink;

drink; the custome requires eating and drinking. And now, because each carries it's weight with it, the Artift ought therefore to endeavour to make such an accommodation between them; that to gratifie the one, he must not forget the others: And yet they ought to be put in Execution at the same time. Now the Artift is to consider that the conservative Indication is of greater importance than the Curative: So that he must therefore leave something unfinished in the Cure of the Fever; giving his Patient meats and drinks often; although they be contrary to the Cure; in consideration of Age, to which strong drinks are proper; and to conserve Nature in her custome; curing the Fever by other means, and conserving the said things at the same time, if it be possible: and if it shall happen to fall in Winter, the Indication of the time will augment the permission to eat much, and drink Wines and strong Drinks, (*viz.*) Beer or Ale, &c.

Take likewise another example, answerable to another part of your enquiry; which is concerning the rencontre of opposite Indications, deduced from the same Topic of Natural things. Suppose then that in the Cure of an Ulcer, the Artift meets with a Body of an hot and humid temperature; as in a sanguine

sanguine, young man; and the part ulcerated be of a cold and dry Temperature; as about the Joints; or the substance about the ears, or the nose, or some other part where there is no flesh, or but little; and so he sees the Indications of the said Temperatures are contrary, in comparing them, with that of the disease: Now to judge according to the enquiry, if the Artist can accommodate and agree them all at the same time, and which require the greatest care in the Cure, the Artist must distinguish how many degrees the said contrary Temperature are distant from a mediocrity. For if they are equally distant; he must apply such a Medicament as he is us'd to do in a body of a middle Temperature, observing only the Indication of the disease. But if they be of an unequal distance, that which exceeds the other, draws to it self the fortifying, or mitigating the Medicament proper to the disease.

See here another example, not wholly unlike the last, but proper, farther to explain the solution of the enquiry: And it is of the conferring, or comparing of several Indications, of things Natural, and almost Natural, and of some Contra-natural agreeing together; although opposite, for the most part to the Indications of the principal disease.

Suppose

Suppose then the Artift hath under his Cure a grand and profound Ulcer, very painfull, in a tender young maid, delicately brought up, in a part of her body of the ſame Temperature, and very ſenſible; the ſaid Ulcer, as well in regard of it ſelf, as for it's magnitude and profundity, requires a more-drying and ſharp Medicament: but on the other hand, the pain, the moiſt Temperature, as well of the body, as the part, the feminine Sex, the Age, the Soft Habit of the body, the ſenſibleneſs of the part, the Cuſtome and Condition of the perſon, which was never accuſtomed to labor, and who never endured any hardship; all theſe require leſs drying and more mild Medicines. In this Example the Artift may ſee many Indications, as well of things Natural as Non-natural which draw the Cure, each to it ſelf, in oppoſition the one to the other.

One example more a little differing from the laſt, and ſo I ſhall conclude; ſuppoſe an Ulcer in a part of an hot temper, and in a ſummer, hot beyond meaſure; now the Ulcer for it's part it requires a deſiccative Medicament, and the Temperature of the part ulcerated, that requires an hot medicine; the Air about the Patient is too hot and too dry and becauſe to the Air a cold medicine and leſs drying

drying is proper; and all this falls out at the same time: If the Artist shall ask to which of the said Indications he ought to be most intent? Which he should prefer? How he shall satisfy them all together? I shall answer in a few words; those of greatest importance, and of grandest consequence draw to them the principal Cure; and regulate the medicine, in moderating the other.

CHAP. VII.

Of things Natural, Non-natural and Contra-natural.

WHereas, in the former discourse there is often mention made of *Natural, Non-natural, and Contra-natural* things; if the young Artist be not acquainted with these terms before, from other Authors, he may then take this following short account thereof from me.

First then *things Natural* are so called because they compleatly constitute our Natures; and they are seven in Number; *Elements, Temperaments, Spirits, Humors, the parts of the Body, Faculties, Functions, or Actions.*

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The *Elements*, known to all, are *Fire*, *Water*, *Air* and *Earth*. The *Temperaments* arise from the mixtion of the *Elements*; and so a body is said to be simply hot, cold, moist or dry; or compounded of hot and dry; hot and humid: cold and dry; cold and humid. Then for the *Humors*, they are four; *Bloud* hot and humid; *Phlegm* cold and humid: *Choler*, hot and dry; *Melancholly* cold and dry.

Next *the parts of the Body*, and they are generated from the commixion of humors; and they are either *Principal*, as the heart, brain and liver, to which some add the testicles; or administering to the principal, as the Arteries to the heart; the Veins to the liver, the Nerves, &c. to the brain, the Spermatic vessels to the Testicles. Then the parts are some of them neither governing nor governed by others; but are governed by their own faculties, as Bones, Cartilages, Membranes, Flesh; &c. but what is here said must be taken in a sound sense: For Flesh receives from the Liver the Influence of the Natural faculty by help of the Veins; and of the Vital faculty by the Arteries; &c. then some parts exercise their own faculties, and those proceeding from others, as the *Abdomen*, *Reins*, and *Matrix*. Again a part may be divided into *Similar*, as a Bone, Car-

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tilage,

tilage, Flesh, &c. which are so call'd because their parts have the like Nature with the whole : As an hundredth part of a Bone, is called a Bone ; as well as the whole : And these are either sanguine, as Flesh, a Muscle, &c. or Spermatic as a Bone, &c. Secondly, Dissimilar, or Organic, because they are the Organs or Instruments of Operations ; as the hand of Comprehension, and the Stomach of chilification ; and so of the Heart, Liver, Eye, &c. they are called dissimilar because they are divided, as to the Sense, into other parts, which lose the Name of the whole ; as a membrane, part of the Eye, is not call'd the Eye : Nor a bone, part of the Finger, is not called a Finger.

Then the *Spirits*, they are the most aery lucid, subtile part of our Body ; and the chief Instruments of the faculties ; they are three in number, *Vital, Animal* and *Natural* ; the first is generated and resides in the heart and arteries ; the second, in the ventricles of the brains, &c. and are made of the vital ; *Galen* doubted of the third, yet Physicians, after him, allowed of them, and added a fourth sort, viz. the *Generative*, residing in the Testicles ; which they say is compounded of the three other.

Next the *Faculties* are to be considered ; a faculty is the cause from whence proceeds the Function,

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Action; and Action is an active motion proceeding from the Faculty, and the Work is the effect of Action, as Flesh, Blood, &c. Action also is a work, as Sanguification, &c. but not the contrary; as work is not Action; as flesh is the work of Nature, not the Action. The *Faculties* and *Functions* are three fold, viz. *Natural, Vital, and Animal*. The first Faculty is inherent in Plants and Brutes; it affords nourishment from the Liver it's instrument, by the Veins; 'tis also called *Facultas Concupiscibilis* and *Auctrix*; 'tis diffus'd through the whole body, and yet is said to reside in the Liver, by reason of the Blood, the common aliment of the parts: but properly it's Subject is every part of the Body that's nourished and augmented; yet it needs the help of four Functions, viz. *Attraction, Retention, Coction* of aliment, and *Expulsion* of their excrements. The Instrument of the *Vital Faculty* is the Heart; wherein it resides; it's the middle Faculty between the Natural and the Animal. The Organ of the Animal Faculty is the Brain, wherein it resides. To these some add the generative Faculty, which resides in the Testicles; since they say they are principal Parts; and serve wholly for the conservation of individuals, and propagation of each Species.

The *Vital Function* or Action belongs to the Heart, from whence proceeds the generation, and distribution of the Vital Spirits, to which the pulse is serviceable. The *Natural Function* consists in Nutrition and Augmentation, as abovesaid. *Animal Action* is performed by the external senses, or motion, or the principal Faculty; the senses are five *Seeing, Hearing, &c.* animal motion consists in the muscles whereby the parts of the body are mov'd by contraction and extention, and geometrically after divers manners: The Principal Function contains the imagination, or phantasy; ratiocination, or discourse, and the memory: Now all these things are Philosophical Contemplations.

And this is the description, in short, of the Oeconomy of our bodies, according to the Ancients. Now some moderns say, the blood is elaborated in the Heart, and that the Liver is but in lieu of a streiner to absorb the impurities, and send them to the Emunctories; and that it moves and winnows the Chile and Blood by the motion of the Diaphragma; and that it moreover cherishes the stomach: And so *Bartholinus* after *Pequetus*, shuts the Liver out of doors; as to it's office of sanguification; yet *Lindamus* professes that the Liver helps sanguification; but after another

ther manner than the Enthusiastical *Van Helmont*, who thinks sanguification is made in the *Mesenterie* veins; as it were in the shop of blood from inspiration of the Liver. But whether any one receives the Ancient or Modern opinion, or whether the Heart or Liver be the organ of sanguification; the Ancient practice of Physic will not be thereby changed; says the learned *I. D. Horstius*, *Manuduct. ad Medicin.* p. 108. but the same conservative and curative Indications will stand firm for ever; as the famous *Rosencrucius* hath strenuously intimated: And his most excellent assistant, *Dr. Moebius*, in *Institut.* hath largely and elegantly handled this matter: therefore says the Learned *Horstius*, *ibidem*, we owe thanks to God, that the *Methodus Medendi* daily grows splendid, more and more, and remains the same; notwithstanding the disagreeing of some new opinions among Natural Philosophers and Anatomists; do not I pray, the Aristotelains and Democritists sharply contend amongst themselves concerning the Elements and Atoms? and yet they both cure after the same manner; as may plainly appear from what the Learned *Leibnerus* hath written concerning Atoms.

Next are the *Non-natural things*; and they are such as enter not into the composition of

our bodies; but are without us; and yet have power, inevitably to conserve us in health; or to cause diseases in our bodies. They are six in number, viz. first the *Air*, 2dly our *Eating* and *Drinking*, 3dly *Motion* and *Rest*, 4thly *Sleeping* and *Waking*, 5lyth *Retention* and *Expulsion*; that is, if those things are retained which should be expell'd 'tis hurtful to the body: and *è contra*, as the evacuation of blood, urine, monthly terms, &c. be suppress'd they oppress the natural heat, and putrefy: So if those things be expell'd which ought to be retain'd, or be evacuated in too great a quantity, the heat is exhausted, the Functions languish, and cold diseases ensue. Lastly, the Passions of the Mind as Joy, Sadness, &c. can help or hurt us.

Lastly, the *Things Contra-natural* are to be considered. They are three; first, A disease, secondly, It's cause, thirdly, It's symptoms. Now disease *a* is a *Constitution against Nature*, which immediately and manifestly hurts the Operations: 'Tis threefold; first, Similar; secondly, Organic; thirdly, Common to both parts *i. e.* Solution of Unity. The similar is simple, as hot, cold, dry, or moist; or compound, as hot and humid, hot and dry; cold and humid, cold and dry. Also 'tis either universal, as a Fever, or particular, as coldness of the Stomach, &c. or it is either material with superfluous

perfluous humor; or immaterial without it, as Inflammation; &c.

An Organic disease is either, first in *form* or *matter* *Composition* and that either in *Figure*, as when that which ought to be streight is oblique; or in *cavity* when the *meatus* are stop't: in asperity and leinty; as when that which, by Nature ought to be smooth is rough; as the *Trachea* which is sometimes exasperated by fluxion of humors. Secondly, *In number*, and that either, first abounding from things Natural; whereof the cause is multitude of good matter, as when there are six fingers; or Contra-natural, as the Stone in the Bladder, or worms in the Intestines; or 2dly wanting, by the total ablation of a part, or not total. Thirdly, *In Magnitude*; and that is either in the first formation, or after the birth: The first is when a part, or the whole body is lesser, or greater than convenient: The second is, by excessive growth of a part, or the whole body. Fourthly, *In Site*, or position; and that is when the parts possess not their Natural places, as in Ruptures, &c.

A common disease is the last; for all parts require Union, which is not the cause of action; but only a performance of the use. Solution of Unity is either in a similar part, as in a fractured bone, called *Algebra*, by the *Arabi-*

58. *A Supplement to Brugis's*

ans : in the flesh called a wound, or Ulcer ; in the Nerves cal'd *Convulsion*, or *Spasma* ; in the ligaments *Apospasma* : in an Organic part it is called *Avulsio*.

Secondly, *A Cause* is any thing that produces a disease : and it is either, first *Procatartico* or *Primitive*, which causes the beginning, and then absents it self ; as anger, &c. Secondly, *Antecedent*, which is produced by the primitive ; as abundance of blood from copious valiment. Thirdly, *Conjunct* ; by whose presence the disease remains ; and when absent it ceases. Fourthly, *Causa per se*, which is ordein'd for some effect, and is expressed by a name denoting the Reason by which it causes it's effect ; as heat is the cause of being hot. Fifthly, *Causa per accidens* ; is that which is not ordein'd for the effect it produces ; or which is not expressed by a name shewing the reason whereby it produces it's effect ; as cold heats by accident ; and heat is the cause of fermenting a thing also by accident, which proceeds from the intervening of another thing : For cold heats by closing the pores ; and so hindring the issuing of the heat : and the heat ferments or elevates because it rarifies. Also when an effect proceeds from a cause that was not ordein'd for it ; it is the cause thereof by accident : As when the making a ditch

to plant a Tree in, happens to be the cause of finding a treasure : although sometimes, according to *Galen*, a cause by accident is taken for a mediate cause, and *Causa per se* is taken for an immediate cause. Sixthly, *Causa immediata*, is that between which and it's effect there intervenes no other cause. Seventhly, *Causa mediata* when the contrary happens.

Lastly, A *Symptome*, or *Accident*, is a *Contranatural thing which follows a disease, as a shadow doth the body* : As Redness, Pulsation, Dolor and Tension, are Symptoms of a Phlegmon.

A
TREATISE
CONCERNING THE
NATURE
AND
FACULTIES
Of External Medicaments,
With the right manner of using and
applying of them.

AND here I had made an end
but that I thought it might not
be from the purpose to write a
few words in general concerning
the Temper, &c. of External Medicaments,
the Artift shall make use of in his Practise ;
Know then that when Physitians call this Me-
dicine hot, and that cold, &c. know I say, that
it is to be judg'd so only by it's Opera-
tion ; when it is apply'd to a temperate bo-
dy ; without enquiring what it is in it's own
Nature ;

Nature; and what Element domineers in it. Know also that in the temperature of Medicines, there are assigned them four degrees, above the exact temper, which hath no degree; as being of such an exact temper. The first degree then of hot medicines heat, cold, cool, dry, dry, moist ones humect; but not manifestly, or sensibly: inasmuch as they have need of some rational demonstration: the second degree, heat, cool, moisten, dry, manifestly, and sensibly, so that there is no need of demonstration. The third degree acts vehemently, but not extremely; Lastly, Medicines hot in the fourth degree burn and cause an eschar, as quick-lime: The cold mortify, as Henbane; the dry always burn, as actual cauteries: As to the humid Galen is silent. And now because all Medicaments ranked in the same degree, are not wholly alike, therefore there is, with great reason, assigned a certain latitude to each degree, which is divided into three; that is, first, second and third degree, of heat, for example, and so of the rest. And though the Ancients, before the time of Galen, did not so graduat their medicaments, as appears from *Dioscorides*; yet the Invention thereof is of great use and profit in practise. For it is not sufficient to apply to an hot disease any cold

cold Medicine, without any other limitation, or consideration : But according to the excess of the Intemperature, and offence in heat, so must the Medicament be proportioned in the like degree of contrariety ; according to Artificial Conjecture and the nighest to certainty ; and not always by certain and infallible knowledge, whereof divers Medicinal things are not capable : and now to particularize.

Here then we are to begin with *Adstringents* under which are to be comprehended all Medicaments that are of a condensing Faculty, as *Repellers*, *Epulotics*, &c. Now these perform their Functions, either without any manifest quality ; or with some acrimony, (as *æs ustum*, &c.) which extenuate, digest, and produce an Eschar, and therefore are proper for fluxions of blood in wounds. Some bitter Medicines are of an adstringing, purging, and absterging Faculty, and are proper in inward and outward diseases. Salt things are proper for loose parts, and those that are flaccid from plenty of humors ; because they contract and constringe. Lax parts sometimes require only adstringents. Sometimes those Medicines are necessary which thicken the humors, if they be thin, and fluid. In fluxions and diseases, of the head, adstringents

gents ought to have also a desiccative quality, to strengthen the part, if the fluxion be cold ; but if it be hot, mere binding and thickening suffice. Sharp adstringents are to be shun'd in the eyes ; and ungratefull and malignant in diseases of the mouth ; as also minerals in the diseases of the stomach ; as also bitter sharp and acid in Ulcers of the Intestines. Adstringents are not convenient in all fluxions, nor always, nor in certain parts, but they are to be used only : First, When the matter is never evacuated by the Law of Nature : As blood, &c. Secondly, When there are bad Symtoms, as pains, swoonings, &c. Thirdly, When evacuation is in an incommodius place. Fourthly, Astriction is convenient in Ulcers, in the beginning to prohibit inflammation ; and in the end to produce a cicatrice ; but it is hurtfull in the progress and state of inflammations lest it cause a Gangrene.

Repellers are of a cold Nature, or of a thick, terrene matter ; for many things repell only by their coldness, which adstringe not ; as *Henbane, Letice, Poppy, &c.* Some hot things adstringe, which repell not ; as *aloes, &c.* *Repellers* are convenient in the beginning of fluxions ; cold ones are proper if the part be affected with great heat and pains ; but the others if the part be only weak and lax,

64 *A Supplement to Brugis's*

to strengthen it: they are proper rather for hot distempers, then cold; and that only in the beginning; for in the progress you must add Resolvers. Now they hurt also in these cases; first if the humor be in the Emunctories of the Principal parts, (*viz.*) in the Groins, under the Armpits, or behind the Ears; lest they repell the humor to the part. Secondly, If it be venemous; Thirdly, If it be thick, or fixt in a part so that it cannot return; Fourthly, If the Fluxion be critical. Fifthly, If it be in a foul, cachochymical body before universal evacuation; *viz.* bleeding and purging; and sixthly, when the part is weak; lest repellers destroy it's heat, whence Scabs, Leprosy, &c. ought not to be repelled: They are proper in *Pblegmons*, *Erysipela's*, *Ignis sacer*, and such hot Tumors; and are us'd either in form of an *Epitheme*, *Forus*, or *Cataplasm*.

An *Epitheme* may be made *ex aquis nolasii*, *rosar.* *lactuc.* *burf.* *pastor.* *portulaci*, &c. but the more effectual and powerfull is made of the decoction or juices of the green herbs of *solanum*, *lactuc.* *polygon.* *semperviv.* *cicut.* *hyoscyam.* &c. or the same herbs bruised, are proper, apply'd in form of a cataplasm; or the juices with Barley meal mixt to the consistence of a pultis without fire; to which may be added,

added, *Bolus, Sangis dracon. &c.* or thus,
 ʒ. *Ung. populn. ʒi. mucag. sem. Citon. Pysilij.*
an. ʒiii. suc. portulac. ʒss. ol. violar. rosar. an.
ʒi. Flor. nymphaeae, rosar. an. ʒi. Cere q. f.
F. Ung. ent. or this. ʒ. ol. myrutin. cidon. a ʒi.
Bol. Armen. sang. dracon. pulv. gallar. a. ʒi. A-
ceti cochlear. i. f. Liniment.

Fomentations are made of *Oxycrate*, or the a-
 foresaid juices with vinegar, and adding some
 meal is made a *Pultis*. Or thus, ʒ. *Rad. a-*
acetos. cichor. a. ʒiii. Fol. violar. semperviv. por-
tul. lactucae, lenticul. aquatic. acetos. cichor. and
 in a great inflammation, *Solani, Hyosciami. a.*
M. i. flor. Nymphaeae, rosar. papav. rub. a. P. i. F.
decoctio pro fotu; in inflammations. By these ex-
 amples the young Artift, if he be ingenious,
 may frame others, *ad infinitum*, if he see cause.
 In the shops you have *Ung. Adstringens, &c.*

Emplastic medicines are nighest a kin to Re-
 pellers which, by their tenacious quality, close
 the *Pores* and *Meatus*, and thicken the humors:
 some of them are of a viscus substance; some
 merely of a terrene, without morsure; as
Lythargyrus; their nature is the same with
Adstringents.

Next we are to treat of *Anodynes*; now
 the property of these is to lenify or stupe-
 fy the body, or any part, the cause of the
 disease remaining. The Lenifiers are of a
 temperate

66 *A Supplement to Brugis's*

temperate quality and agreeable to our Native heat; of a thin substance; and are proper for hot or cold distempers; but in an hot one they must be somewhat refrigerating. Narcotics are only to be used in cruelty of pain; they do much damage if the pain proceeds from thick humors; but are more convenient for hot humors. After the Artist hath used them, to repair the damage done by them, he is to use hot Medicaments: wherefore they are bad in weak bodies and parts, and if humors be malignant; lest being imprison'd they bring danger. This is an Anodyne Fodus, ʒi. Rad. Alb. Liliior. a. ʒii. Fol. Malv. Parietar. Violar. Branca Ursuin, am. i. Fior. chamemeli; meliloti; sambuci; a. P. i. sem. lini, fenugrec. a. ʒss. F. Decoctio pro Fodu; strein it; and with the materials being bruis'd; and adding farina sem. lini, hordei, a. ʒi ss. Axungia porci, butyri recentis, a. ʒi. ol. Amydal. dulc. ʒii. F. Cataplasma. Or ʒi. Medull. panis cum lacte coct. ʒi. Vitel. Ovor. Num. iii. ol. Rosat. ʒi. croc. ʒi. F. Cataplasma. Or ʒi. Mucilag. sem. Alb. Lini, Fœnug. a. ʒss. ol. liliior. Amygdal. dule. æsepi. Axung. Anseris, a. ʒss. cerœ parum. F. Liniment. These are for cold pains. For hot pains make aniniment of al. bum. ovi & ol. Violaceo, and in height of pain Hyosciam. and Opium. ʒi. Fol. Hyoscyam. Solan. Malvæ. a. M. i. Flor. Papaveris, P. ii. sem. Lini, Malvæ, a. ʒiii. coque

J. A.

f. A. pro fotu. To the residue bruis'd, add
Micæ panis albi, in Lactē cocto ℥ii. ol. Nymph.
Ung. Rosat. a. ℥ii. F. Cataplasma.

Emollients are next, Now they are not
 whatsoever things take away any hardness;
 but only that which was caus'd by dryness:
 And these must be of an hot and humid Na-
 ture, in the first and second degree. What
 distempers are hard through repletion, re-
 quire *evacuantiâ* to cure them; but those hard
 from congelation require *Calefacientiâ*. Re-
 laxating Medicaments are convenient for
 distended distempers; and mollifying for
 hard ones: But those which are both hard
 and distended they require both sorts. They
 are of the same Nature with *Anodynes*, but
 you must add *Origanum, Anethum, Calamenth,*
 &c. as, *℥. Rad. Lilior. Ebuli, Ireos, a. ℥ii.*
Ficus, N^o. x. Fol. Malv. chamemel. Aneth. Pu-
legi, a. M.ii. F. decoctum pro Fotu. To the Resi-
 due bruis'd add, *Fayin. sem. Lini, fenug. a. ℥i.*
ol. Aneth. Irin. a. ℥ss. F. cataplasma.

Attenuating Medicaments are of a high kin
 to *Emollients*, they heat, and incide, there-
 fore they are to be of a thin substance; some
 more, some less; those are called *Diaphoretics*:
 They are not to exceed the third degree of
 heat, lest they burn and harden. After fo-
 menting with the aforesaid emollient decocti-
 on

on presently anoint the part with some attenuating oil as before, or Ung. Agrippæ, or Aragon; then apply the *Pultis*, aforesaid. Or ʒ. Ol. Costin. Irin. comp. a. ʒii. Pingued. Galline. antiq. Butyr. falf. a. ʒi. Aq. Vitæ parum, F. Liniment. Aq. vitæ, or Brandy alone have often resolved cold Tumors.

Medicamenta Attrahentia are a nigh relation to your *Attenuantia*, and they are of an exceeding hot nature, as, *Sinapis*, *Finnus Columbinus*, &c. and those that being hot in the fourth degree, cause blisters and redness, are called *Vesicatoria*, *Dropaces*, *Sinapismi*; they powerfully dissolve and colliquate; they are proper in Dropsies, Sciaticais, great pains and often Vomittings; but they hurt being apply'd to parts wanting flesh, Children, and tender women; superficial diseases, and cold ones without matter, *Aetius*: to which *Calefacientia* are sufficient in ulcerated and hot diseases. Yet they may be proper in the declining of the disease. Secondly, If the humor be so highly fix'd that it cannot otherwise be discuss'd; as in a salt distillation *Galen* applyed them to the head. Thirdly, If there be a venenate quality; as in a carbuncle, malignant Ulcer, biting, or venenat puncture. Fourthly, when venenate humors are to be averted from the Noble parts.

A *Dropax* is of excellent use in *Atrophia*, and extenuation of a part; for it heats and humects, and attracts blood; for aliment is not distributed because 'tis transmitted, but because it is attracted: Therefore cold and dry parts do not well attract; whence they require the help of heat. But here you are to understand that that extenuation of a part which proceeds from a defect of the Stomach or Liver, evilly concocting, cannot be removed by a *Dropax*. You are to remove your Plaster before it be cold, and it is often to be repeated, while the part looks red: It carries away the reliques of diseases: A simple *Dropax* is called *Picatio*, being only pitch melted in oil. But in hard bodies *Galbanum* and *Sagapenum* are to be used. If a more compound be required then the Artist may add, *Piper*, *Pyrethrum*, *Sulphur Vivum*, *Sal. Stercus columbin*, *Bitumen*. It ought not to exceed the third degree of heat, because it's end is only to rubify the part. The skin is first to be rub'd, or fomented; when it hath produced a redness then remove your Plaster, lest what was attracted be resolved. It may be repeated every other day as occasion requires. If the part will be colored, neither by friction, nor fomenting, nor by a *Dropax*; it is a desperate case.

A *Sinapism* is a cataplasim made of Mustard seed, and Figs, steep'd in Brandy, and bruised together. The milder hath one part of *Sinapis*, and two of Figs; the meaner is of equal weight: the stronger hath two parts of Mustard seed and one of Figs. 'Tis to be used as a *Dropax*; first rubbing the part &c. after it hath produc'd a redness anoint the part with *ol. rosar.* &c. 'tis proper in daily pains of the head, brest, joints; the Epilepsy, Hemicranie. Palsy, Distillations, Sciatica, Gout, short Breath and want of Appetite, says *Aetius*. Have regard to the parts to be applyed to, as in *Dropax*. For a more compound one. ʒi. *Empl. de Mucilaginib* or such like, ʒii. *Sem. Sinapi*, *Siaphisagr.* *Stercor. Columbini*, a. ʒss. or ʒvi. *pul. caryophil.* ʒii. *cum. ol. Irino* F. *Empl.* For the head make them in form of a T.

Vesicationes are of the same use with the former, and are made of *Empl. Epispasticum*.

The next we are to treat of are *Medicamenta Maturantia*, and they are convenient where the humor is imprisoned, and by reason of it's thickness, cannot be resolv'd or set at liberty they must be of an hot and humid or emplastick quality; lest any matter should be dissolved; they are proper in the State of

Encreas

Encrease of a Tumor ; but less proper in the encrease: they are made of the aforesaid Anodyns and Emollients ; to which may be added *Cepas, Oxylapath. Tussilag. Oxalis* roasted in the Cinders and bruised with Adeps, is excellent: Also *Ficus cum butyro, oleo* and farina tritici. In the shops you have *Ung. Basilic. Agrippa, Empl. Paracels. de Mucilag. Diachylon cum Gummi, &c.* If you cannot release your prisoner by these means ; then you are to apply an actual, or potential Caustery, and to use your incision knife. The Artist must open it, in the declining part according to the wrinkles of the skin ; shun veins, arteries, &c. not evacuate all at once.

The Tumor being open'd, the Artist is then to cure the Ulcer, and to dry it up ; for an Ulcer, *quatenus* an Ulcer, requires to be dried up: But by what means and Medicaments this shall be effected, *hic labor, hoc opus* ; well then the Artist must perform this by deterging, farcotic or epoulotic Medicaments. Now the deterging Medicaments which perform this office, are to be most frequently of a bitter, hot Nature, in the first or second degree: or temperate ; somewhat cold and dry, and of a middle substance ; and these are to be either of a gentle and middle quality, which carry away the grosser

fer and thicker sort of *Sordes*; or elce of a more strong penetrating faculty, which have power to eat away a *callus* and corrupt Flesh; as in malignant Ulcers and *Fistula's*. In the shops you have *Ung. Egyptiac. Apostol. &c.* If your Ulcer be hollow you must dissolve your unguents in Smith-forgc, or Alum water; or white wine, or brandy, according as the Nature of the Ulcer is, and Syringe it: if *Fistulated*, you may boil or infuse Tobacco in the aforesaid vehicles; some use infusion of Arsenic or Vitriol: and some *Aq. Fortis* alone.

The Ulcer being absterg'd requires Medicines that have power to beget flesh to replenish withall, call'd *Sarcotics*: Now the material cause of flesh being the blood; and the efficient heat; your *Sarcotics*, you must understand, do but only remove impediments which hinder regeneration of flesh: Therefore your *Sarcotics* must be of a deterging and exsiccat'g quality, without acrimony; or great heat, least they absume the blood. But because there are but very few Simples which can perform this alone; therefore compounds are made use of rather: and they must be divers according to the Nature of the body and part affected; they must be of a dryer quality for dry bodies and parts; but in humid ones, as children and women, they must be moister

moister and milder. Then the Artist likewise to note that if his Sarcotics be weaker than is requisite they cause the Ulcer to become fordid; and if they be too strong they will certainly exaspereate it: Which many not understanding have apply'd stronger and stronger; which prov'd to deterge too much, to the detriment of their Patient and practise, procuring thereby an eating Ulcer, or *Nomodes*.

And here in the use of Sarcotics the Artist is to consider four things. First, seeing that the generation of flesh, as I said before, proceeds from the alteration of the blood; he is therefore, in an especial manner to see that the body be in good temper; and if not to procure good blood by altering and evacuating remedies, viz. good dyet, phlebotomy, purgation, &c. so in the use of his medicines, the *Sanies* and *Sordes* is to be dried, but moderately; for if you go violently to work, you will absume the matter from whence should proceed your flesh; so *Farina Hordei* & *Fabarum* exsiccate without heat; and *Thus* moderately. But *Farina Hordei* & *Iridis* are more valid: But your *Aristoloch.* and *Panax* are stronger than those. Then you must remember never to use adstringents before you have well deterg'd, lest they detein

74 *A Supplement to Brugis's*

the excrements. Secondly, The Artift is to have an eye to the Nature of the part affected ; for his Medicine deterging must be one degree dryer than the part : hot parts require hotter ; dry dryer detergers ; that fit flesh may be generated : Wherefore in moist parts, *Thus* dries and begets flesh ; but in dry parts it humects and suppurates : Then if your Sarcotic be weaker than is requisite, you will perceive more plenty of matter to be generated ; and the flesh will be soft and flaccid : But if it be stronger than needs ; then the lips of the Ulcer will be red, inflamed dry, callous, with mordication. Thirdly, The Artift is to regard the *Connexa*. For a part being hotter or colder than it ought to be by Nature, is to be reduced to it's Natural temper ; the air, pain, inflammation and other *connexa*, are also to be regarded. Fourthly, The Artift is to regard the contrariety of Indications he shall meet with : as for example ; if the patient be of a moist temper, and the part affected the contrary ; accordingly there is indicated to the Artift a desiccative medicament in the second or third degree ; for the dryer ought to be moderate : So also ought the age, region, time of the year, constitution of the Air, &c. to be considered, as I said before.

Now

Now if through the neglect, or too long use of Sarcotics, and Epoulotics or Cicatrizing Medicaments being omitted, there shall happen an *Hypersarcosis*, or Superfluous, Spungy flesh, which is a *Solution of continuity complicated with magnitude augmented*; you must take it away with vehement dryers, in the fourth degree; not that they are to be so in their own Nature; but in respect of the part affected; whence, to some bodies epoulotics prove catheretics: and they ought also to be sharp and deterging: Such are all kinds of Ink, *Alum. Ung. Ægyptiac. &c.*

Now the Artift having removed all accidents and filled the Ulcer with good flesh, he hath no more to do but to cicatrize it; that is dry it and skin it up: Which because Nature cannot perform, or regenerate another skin, by reason of it's hardness; she therefore substitutes a certain callous substance, very like the Natural skin in lieu thereof. So that your cicatrizers must be of a drying, stiptic quality; that they may absume all moisture; then they must be also of an adstringing Nature that they may contract, without manifest heat and biting; for those Medicaments with desiccate, with morsure, are convenient only for hard, rustic, robustic, bodies, as *Alum, as ustum, &c.* and are of a near

64 *A Supplement to Brugis's*

Nature to Cathereticks ; which are only proper for an *Hyperfarcosis*. I said they must be of a drying, stiptic quality, without mordication ; such as are your Sarcotics in the first degree ; and your Glutinaters in the second ; and your cicatricers in the third degree do also dry ; which is to be understood concerning the part affected, for to Women and Children, &c. and small wounds, milder Cicatricers will suffice ; which in other harder bodies would be only Sarcotic : *ergo* they must be drying and styptic, as *Gallæ* &c. the others as *Alumen*, *Vitriolum*. &c. perform this part by accident, as being of an hot, igneous Nature, and colligate the flesh ; so ought to be first burnt and wash'd indeed before the Artift use them ; and then but in a small quantity : And here the Artift is to take notice that he is to use his Cicatricers before the Wound or Ulcer be altogether equal ; because Nature always generates flesh ; and so his Cicatrice will be deformed ; the most effectual Cicatricers that I know of are these following. *Diacalciteos* dissolved in the deepest red Wine, and mollified with *ol. myrtillor. calx lota*, and brought into an unguent with *ol. rosaceum*. *Pulvis plumbj ust. and lori*, is excellent to cicatrize malignant and Cancrous Ulcers. 24. *Plumbi, Tutie, aris, aluminis*

aluminis, *ustorum* & *lotorum*, a. 3℥. *Sang. Dracon.* 3i. *F. Pulvis.* Or make them into an *Unguent* in a Mortar, with *ol. rosar.* & *pauco aceto.* Or 4. *Cortic. mali granat. Thuris,* a. 3iii. *Gallar. Aristoloch. a.* 3ii. *testarum* vor. *calcinat.* 3℥. *croc. martis.* 3i. *Borac.* ʒi. *pumic. usti* ʒii. *Coruss. Lytharg. Tutie,* a. 3i. *Aloes,* 3ii. *F. pulv. s. A.* or with hony and astringent wine; or with *ol. myrtin.* & *colophonias,* *F. Unguent.* adding *Scoriam Ferri,* cum *Antimonio* & *calcitide*; which are also good of themselves being dissolved in stiptic wine. Or lastly, 4. *Calc. viv. Alumin. Cortic. granator. an.* 3vi. *thuris, gallar. a.* 3iv. *cerae, olei,* a. ʒ. *s. F. Unguent. s. A.* This is for fordid and putrid Ulcers; having first apply'd *Caro salsa porcina.*

Lastly, *Caustics* and *Escarotic* medicaments burn and make crusts, absume hard and callous things in the Flesh; hot in the fourth degree; of a thick and terrene substance; but according to the Natures of Bodies, and staying upon the part, the same Medicine may be called a vesicatory, catheritic or escarotic: For those which are *vesicantia* in hard Bodies; are *escharotics* in soft: and those which are *Catheretics* in soft bodies, are *epoulotics* in harder: see then of what weight the discerning between

78 *A Supplement to Brugis's*

between body and body is to the young
Artist in his practise. Your Caustics are
made of *Lapis infernalis*, Sope and quick-
lime, to the consistence of an Unguent
spread upon lint and applyed between two
Emplasters, as broad as you will have the
Eschar to be.



FINIS.

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VADE MECUM:
OR, A
COMPANION
FOR A
CHIRURGION.

FITTED

For Sea, or Land; Peace, or War.

Shewing

The Use of his Instruments, and Virtues of Medicines Simple and Compound most in use, and how to make them up after the best Method.

With the manner of making Reports to a Magistrate, or Coroner's Inquest. A Treatise of Bleeding at the Nose, and directions for Bleeding, Purging, Vomiting, &c.

By Thomas Brugis, Doctor in Physick.

Being amended, and augmented with an Institution of Physick, and seven New Treatises, viz. of Tumors, Wounds, Ulcers, Fractures, Dislocations, Lues Venerea, Anatomy.

Whereto

Is also added, (by way of Supplement,) another New Discourse called *Chirurgus Methodicus*, or, The Young Chirurgion's Conductor through the Labyrinth of the most difficult Cures occurring in his whole Art, and whereby he is distinguished from Empyricks and Quacksalvers.

By ELLIS PRAT. M. D.

The Seventh Edition.

London, Printed for B. T. and T. S. and Sold by Fr. Hubbard, next the Crown Tavern in Duck-lane. 1689.

RE

Chirurgus Methodicus;

OR, THE

Young Chirurgion's
CONDUCTOR

THROUGH

The Labyrinth of the most
DIFFICULT CURES

Occurring in his whole Art;
And whereby he is distinguished
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Being a SUPPLEMENT to
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L O N D O N,
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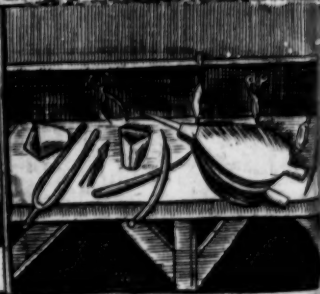
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T. Croft sculpit



K. 12. 66

Young Children's

CONDICION

DIFFICULT CURES

the first common, and coronal suture, it includes 2 cavities deriv'd to the nostrils; 2d, 3d. are call'd *sinciput*, separated above by the sagittal, below by the scaly false suture; before by *coronal*, behind by *lambdois*. The temples are under these, scaly upward, downward hard and rough, call'd *petrosa*. In this part, note 4 *apophyses*, *mastoid*, *styloid*, *zygomatic*, 4th in the skulls inner *basis*, and may be call'd *auricular*. In this are contain'd the ears 3 cavities: 1. *Forus auditorious*, outer. 2. *Concha*, comprehends the inner air, and 3 ossicles, *malleolus*, *incus*, *stapes*, and a hole passing to *mastoid*'s hole. This hole's end opposite to the drum, hath 2 holes boar'd in't; the greater call'd the oval window, the ingress to the third cavity. 1: *Labyrinthus*, from its various turnings, returning to the same cross-way; the other narrower, is the entrance to the fourth cavity. 1. *Cochlea*, from its rough and writh'd figure: the 6th bone's call'd *lambdoides*, and separated by the *lambdoid* suture: the 7th *sphenois*, its inner table swells with 3 *apophyses*, call'd *clinoides*, one hinder 2 fore, reaching to the optic nerves rise: the cavity between these is call'd *sella sphenoides*; its outer table hath 4 *apophyses*, 2 hollow like a ship, call'd *navicularis*, *pterygoides* by *Galen*; the other go to the temples, *temporals*: the 8th *ethmoides*, by *Galen* *spongides*, consists of seven

seven several portions : 1. the table board like a sieve, from which rises an *apophyses* within the scull, the 2d portion, call'd *crista galli*; without the nostrils from the same table depends the bony plate severing the nostrils, call'd *septum narium*, and is the 3d portion : to this stick 2 spongy bones, which make 4th and 5th. part ; the 6th and 7th portion is a thin, plain, smooth, like a thumbs breadth ; it makes each *orbits* inner side nigh the great *canthus* ; below it covers 3, sometimes 4 *cells*, reaching from the great *canthus*, to the inmost *orbit*.

The upper jaw hath 5 bones on each side, one without a fellow sustains the palats midle, i. *Galen* calls *melon*. it may be call'd *zigomaticum*, from making *zigoma's* greatest part, the eyes less corner, and great part of *orbit* : now *zygoma's* a bony semicircle made of 2 *apophyses* join'd in the middle by the oblique future ; one proceeds from *petrosa*, the other's part of the cheek bone. 2. *Os unguis, ossiculum lacrymale, os agylopis* rests in *majori cantho*. 3. *Os maximum*, makes the teeths middle part, compleats the lower *orbit*, and the noses inner part : 4th forms the nose ; so 4 bones form the nose, 2 proper mention'd last, 2 common, part of the *maxillary*; late Authors add a bone between *sphenois* and *palatum*, not unknown to *Hippocrates*, call'd *Vomer*, reaching the inner nostrils,

nostrils, sustains the noses bridge, to which 'tis join'd by *suture*, or *harmony*.

The *orbitary* bones are not proper, except the *angular*, but portions of the scull and upper jaw. 1. *Frontal*, makes its vault. 2. Part of *sphenoid* sited in *orbis* deep outer side *ad canthum min.* 3. *Zygomaticum* makes *canthus min.* and the *orbits* pavement. 4. *maxillare*. 5. *lacrymale*. 6. *Os ethmoidis* scaly table, makes *orbits* other side *ad maj. canthum*; these bones are discern'd within the *orbit*, with their proper and common sutures.

The lower jaw in *adults* is one bone, in which its *basis* and its ends are noted; *basis* middle part, hollow within, bunching without, is call'd the *chin*; its ends are call'd corners, each horny end sends out 2 *apophyses*, one sharp, call'd *corone*, receives *muscul. temporalis* tendon; the other *condylodis*, it may be call'd *articularia*, for serving to the jaws conjunction. Below these is a noted inner hole, by which vessels are scatter'd to the teeth; part of which goes by the chin, by a narrower and outer hole, dispers'd to the lips muscles.

The teeth *basis* is that part without the gums, their root's within, hollow to receive a small vein, artery and nerve; their root is various in number and figure; that of the cutters simple and streit, distinguish'd by a cleft
for

for firmer sticking : so is the dog teeth, in the upper grinders 'tis triple and crooked, because they hang down ; in the lower double, and sometimes triple : their number in full age is distributed in 3. orders, as to site and bigness ; the first 4. are call'd *cutters* ; on each side one join'd next, *dog teeth* ; the rest 8, or 10. *grinders* ; they are plac'd in by *gomphosis*.

The trunk, the *skeleton's* 2d part, comprehends the spine, and bones adhering, 'tis made of *spina*, and *thorax* ; *spina* or *rachis* is a bony pipe, the spinal marrows conceptacle, reaches from *caput* to *coccyx* ; it consists of many bones, for security and action of bowing, &c. call'd *vertebræ* ; in each note two parts : 1. inner thick, round, call'd *corpus* ; the other outer, swelling with diverse *apophyses*, wants a name ; of the *apophyses* are 3. differences : 1. *streit*, *oblique*, *transverse*, the hinder's sharp, call'd *spina* ; the lateral and transverse is double, the oblique fourfold, by which the *vertebræ* are join'd by a compound *gynglymum*, whereto 3. bones are requir'd ; of the oblique *apophyses* two bend upward, two downwaad ; so all the *vertebræ* swell with, 7 *apophyses*. The whole *rachis* is parted in 4, neck, back, loins, or *sacrum* ; the neck hath 7 *vertebræ*, back 12. loins 5. or *sacrum* is one, or 3. in adults.

In

In the necks *vertebræ*, all the transverse *apophyses* are perforated, to give way to the ascending cervical veins and arteries, hollow in the ends to convey the soft nerve; the sharp are horned, for the rise and insertion of muscles; but the upper 2 have another structure for the heads motion; for the first wants a spine, and a thick round body; the 2d emits an *odontoid apophysis*; all the necks *vertebræ* are strictly and intricately join'd, lest they should slip asunder in the necks vehement motion.

The backs *vertebræ* are alike, their *apophyses* solid, and continued without any hole: the 12th or 11th *vertebræ* articulation differs from the rest, these cohere by *ginglymus*, they by *arthrodia*; so the motion of the whole spine, i. flexion, extension, obliquation is perform'd upon that *vertebra*.

The loins 5 *verteb. apophyses* differ from the backs, for the hinder, or *spinæ*, descend not as the backs, are streit and broad; the *transverse* are longer, standing instead of Ribs.

Os sacrum is under the loins, and seems one simple bone, yet boil'd long in oil, it divides in 5 or 6 parts, to its end's join'd a three, seldom four cleft, or cartilaginous bone, call'd *coccyx*, we the crupper bone.

Thorax cum spina make the *skeleton's* trunk; *thorax* is made of 4 kind of bones; *sternon* before;

before; the Ribs o' the side; *clavicula* o' top the back behind; *sternon* in *adults* is a continued bone, distinct by 3 or 4 *transverse* lines, the footsteps of ancient divisions; more conspicuous inner, than outerly; on this bone's end depends the *xyphoid* gristle, representing a shield in brutes. xii Ribs on each side; 7 upper call'd *true*, because join'd to *sternon*; the 5 lower *false*, because not join'd it; but to a gristle to give way to tumors of the liver and spleen, and yield to *diaphragma's* motions. The clavicles are on each side one, in figure like an Italian S. join'd between *acromium* and *sternon*, they keep *scapula* in its site, lest it fall upon the breast.

In *Omoplata* many parts come to be noted, very requisite to the rise and insertion of the muscles; part of it stretch'd along the back, is call'd *basis*, whose ends are call'd angles, one upper, the other lower. *Basis* sides are call'd Ribs, of which the shorter, thinner's call'd the upper; the longer & thicker, the lower; its whole *trapezian* breadth's call'd *mensa*, whose outer part is gibbous, inner hollow, to receive a muscle. A famous *process* or *apophysis* ascending upwards from its *basis*, is called *spina*, whose broad end is called *acromion*, which, according to *Hippocrates* and *Galen*, is a distinct bone, gristly in children, in *adults* bony, which after 20, and sooner, is chang'd

chang'd to an *apophysis*, glued to *spina*. *Fossula* stretcht on each side *spina*, is call'd *inter-scapulium*; one upper, the other lower; but *spina*'s middle bunch call'd *pterygium* vulgarly; *scapula*'s other great end, under *acromion*, and opposite to *basis*, is call'd *cervix*; in it note *apophysis coracoides*, made for security and firmness of the shoulders joint: the necks cavity's *glenoides*.

Manus depends upon *scapula*, divided into 3 parts, *humerus*, *cubitus*, and *extrema manus*; in *humero* note 2 ends, for insertion of muscles; the upper, call'd *Caput*, which a membranous ligament from *glenoidis* mouths cavity compasses, besides the *aponeuroses* of 4 muscles wherewith 'tis involv'd; a little below *Caput*, the orbicular narrowness is call'd the neck. In the head is engraven a longish chink, by which *biceps* nervous head is drawn; in the arms other ends the *trochlea*, about which the cubit's turn'd; about *trochlea* are 2 cavities, the inner ampler than the outer; in these are receiv'd the cubits *apophyses*, call'd *coronæ*; 2 o' th' arms *apophyses* are join'd to *trochlea*, call'd *condyli*, one lower, inner, the other higher and outer.

Cubitus is made of 2 bones, one higher, shorter, call'd *radius*; the other lower, greater, under the former, keeps the name of the whole, and is called *enbitus*, by some *ulna*: 2 bones

bones were necessary here, because of the double and contrary motions, which could not be perform'd by one bone join'd by *ginglymos*; for that suffers only flexion and extension, not inversion, which *radius* join'd by *arthrodia* performs. *Radius*'s obliquation cannot be perfectly discern'd, unless in a new carcass, all the muscles remov'd: for then, with great admiration, you'll see *radius* turned upward and downward upon cubits being firm; and also mov'd with *cubitus*, when bent and extended, In *cubitus* ends is something worth note; for in the upper end is the *sigmoid* cavity, which embraces the arms *trochlea*; about this 2 coronal *apophyses*, the lower's call'd *olecranon*; in the lower part *cubitus* emits the *styloid apophyse*; these bones are join'd together in their ends, by that *ginglymus* made of 2 bones, going in one another in distant places.

Extrema manus is divided in three parts, *carpus*, *metacarpus*, and *phalanx digitorum*, because they seem to stand in battel array.

Carpus is made of 8 bones distributed in 2 orders, join'd among themselves by *symphysis*, and, its *species. harmonia*; therefore *carpus*'s bones are mov'd among themselves obscurely, or not at all; the first order with the lower cubit makes *arthrodia diarthrosis*; the same order's knit with the 2d order of *carpus*'s bones

bones by *arthrodia*; which 2d order is join'd with *metacarpus* by *arthrodia synarthrosis*, therefore this joint's motion is either none at all, or insensible, but the first order with the 2d is mov'd obscurely.

Metacarpus is made of 5 bones, if with *Riolanus* we add the thumbs first bone, which others reject; because obliquely added to *metacarpus*, and manifestly moves, against the nature of *metacarpus*'s other bones, which with *carpus* make *arthrodia*, with the fingers *enarthrosis*; yet *metacarpus*'s 4th bone sustaining the Ring finger, moves manifestly. From each bone of *metacarpus* is each finger directly reach'd out, *pollex* excepted: the fingers consist of 3 bones join'd by *ginglymos*, so are only bent and extended; their oblique and lateral motion depends on the first bones *enarthrosis cum metacarpis*.

The greatest bones of the body which join'd with *os sacrum*, sustain and erect the trunk, are call'd *ossa ilium*; in adults continued, in children tripartite, and retain the ancient names, though the footsteps of divisions are obliterated: the bones broader part making almost its whole breadth, and reaching *ad medium acetabulum*, is call'd *os ilium*; the upper half of the other part is call'd *os pubis*, the lower *ischium*: of these 3 parts the great *basin* is form'd.

In these bones some particulars are to be noted; Anatomists call *os ilium's* external face *Dorsum*, the upper, inner, hollow, *venter*; the end *costa*, inner, and outer brims, call'd lips, or brows; so as one's inner, the other outer; its bunchy end join'd to *os sacrum* the *binder spine*; its other end towards *acetabulum*, the *fore upper spine*; under this is another, call'd the *fore lower spine*. In *os pubis's* a *spine* near *symphysis*, by its joining a top with its other fellow: in *os ischium's* a spine and bunch, the tubercle's call'd *condylus*.

The *feet*, as the hands, are divided in 3 parts, the thigh, leg, and foot; the thigh bone is the greatest of the whole body: now its ends, in the upper is *caput*, round, under which is a slender part call'd *cervix*; from which are 2 *apophyses* produc'd, to which *musculi rotatores* are fixt, therefore call'd *trochanters*; the fore's call'd *minor trochanter*, the upper lateral, *major trochanter*. The thigh's other end is parted by 2 *condyli*, the middle cavity being left, which admits the legs middle and bunchy *apophyses*, and *vicissim femur's condyls* are received by the legs cavities, by a loose *ginglymos*: this articulation's fore-part is call'd *genu*, the hinder *poples*. *Patella*, a small bone spread over, and cleaving to no bone by article, fixes and strengthens this articulation.

The

The leg is compos'd of 2 bones, the greater and inner is call'd *tibia*, the lesser and outer *fibula* : *tibia* is articulated to *femur* by *ginglymos* ; *fibula* sticks to *tibia*, not touching *femur*. *Sura* and *tibia*'s lowest and buncy parts are call'd *maleolli*, *tibia* makes the inner, *fibula* the outer ancle.

Pes is divided in *tarsus*, *metatarsus*, and *toes*; *tarsus*'s made of 7 bones : the first join'd to *tibia*'s call'd *astragalus*, or *talus* ; that under this *pterna*, 3d join'd to *astragalus*, *scaphoides*, 4th to which is join'd the heels lower and fore-part *cuboides* ; the other 3 have no names, or *calcoidea*. *Metatarsus* is form'd of 5 bones, answering *manus metacarpio*. *Digiti* consist of 3 bones, except the greater, which have only 2 ; certain ossicles fill and strengthen the interjunctures of *manus* and *pedis digiti*, chiefly in adults; of uncertain number call'd *Sesamoidea*. In the great toes 2d article, are 2 ossicles worth note, and big enough; always found in all carcasses, and are to be added in fabricating.

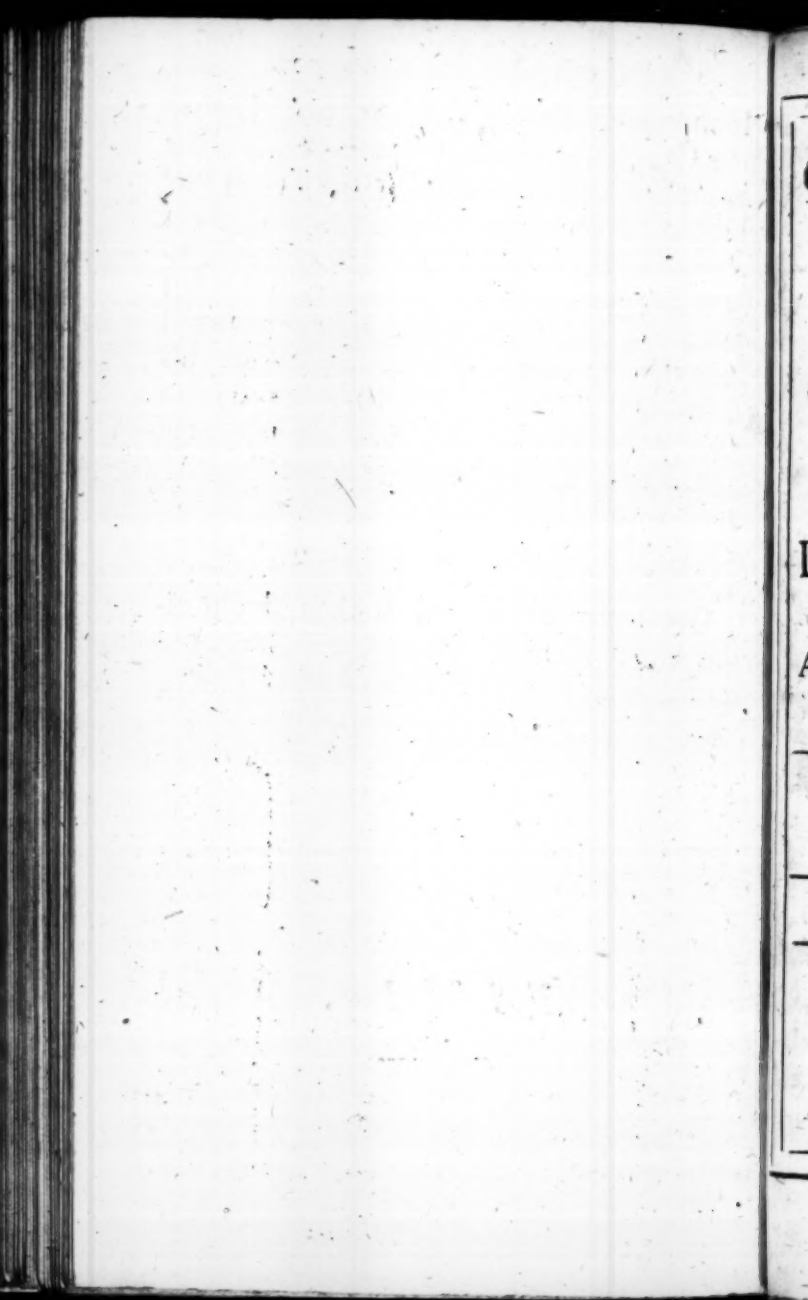
Thus have I given thee a short Anatomical Treatise, where I have, as nigh as possible, kept to the doctrine of the Ancients, after the manner of my ever honoured Master, Dr. Riolan, whose *Enchiridion Anatomicum* I have *Euchiridioniz'd*, if I may so say, for thee.

If

If thou ask why so? I answer, first, I know not a better the world yet hath produc'd for young Students; and himself is stil'd, by our English *Hippocrates* Dr. *Harvy*, *Coryphæus Anatomicorum*; and is said by Dr. *Primrose*, to have perfected Anatomy; lastly, in his last Edition of his *Anthropographia*, he disowns all his other Anatomical Treatises, except his *Enchiridion*. Secondly, I did it to free so great a Person from a many Errors, committed by a Translator into English.

Courteous Reader, what thou find'st either literel or more material, be pleas'd to correct and pardon: For *bumanum est errare*.

F I N I S.



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Chambers's Medical

and Surgical

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THE
P R E F A C E
TO THE
Young Artist
IN
CHIRURGERY.

THIS following Treatise may be call'd a Commentary upon the third and fourth Books of *Galen's* Method of Physic, which treat, principally, of the cure of Ulcers; but if the young Artist shall be ingenious he'll find it to be calculated, as well for the cure of other diseases that belong to his Art, viz. *Wounds, Tumors, &c.* Now *Galen*, the Prince of Physicians, next to
A *Hippocrates*

The Preface

Hippocrates, having, in his first and second Books of his Method, summarily declar'd; that in the cure of diseases the Physitian ought to proceed by Method and Indication; bravely disputing against the Empyrics of his time; and all such as cure by adventure: In his third Book he shews particularly by what sort of Indications the said Method is guided. Wherein he disputes learnedly against that Sect which are call'd Methodists, or *Thessalians*; who, in the cure of all diseases, follow'd but one Universal Indication which they took from the Essence of the disease. Whom to confute he frames Examples from the Method of curing Ulcers: Wherein, according to their diversity, he clearly demonstrates that the Artist hath need to observe divers Indications: And so thereby confuting the Empyrical and Methodical Sects; he firmly establishes the Dogmatical practice of Physic. And

to the young Artist.

And this is all I thought I need to premise; only desiring the young Artists to be studious; that thereby they may come to be famous; and do good in their generation. And that thou may'st so be, and not spend thy time a miss, as our famous Dr. *Read* said, that if any had a mind to mispend good hours let them read *Paracelsus's* Chirurgery: I shall recommend these few Authors following to be read by thee. First then if thou understandest not the Latine tongue, thou mayst procure to thy self, the works of our famous Dr. *Read*, lately completed and perfected by an ingenious *London* Physitian; or *Cook's* Marrow of Chirurgery, the last Edition in Quarto, or the voluminous Book of *Ambrose Parey*; Mr. *Wiseman's* Observations are ingenious: Then for Latine Authors *Hieronimus Fabricius ab Aquapendente*, *Scultetus*, *Tagautius* and *Riolanus*

The Preface

Ianus may be sufficient ; by reading which Authors thou wilt see how great Art is requir'd in the cure of Wounds, Ulcers, &c. more than Empyrics, Quacks, and your old women in the Country, are sensible of ; or can comprehend ; as first 'tis to be enquir'd whether an Ulcer, for Example, be simple, corroding, sordid, &c. then the variety of remedies and circumstances, renders the Art, fallible uncertain and conjectural. All which cannot be known but from the writings of learned Physitians and Chirurgions ; for *Galen* tells us, in his Method, that remedies are to be varied, according to the difference of persons, parts affected, &c. for in some cases a deterging Medicine will prove suppurating ; as *Thus* ; and in others the same is only Sarcotic : And the same *Galen* gives us an Example, of a Chirurgion, who when he saw great putrefaction in an Ulcer, dayly apply'd

to the young Artist.

ply'd stronger detergents, as *Ærugo*; and so the putrefaction grew greater, because the remedy was too strong. So an Ulcer in the thigh requires another remedy than in the brest, or other part, by reason of difference of parts; so that you see all the differences and causes of Ulcers, &c. are to be perfectly understood; also the right Method and use of suppurating, deterging, sarcotic, and epulotic Medicines; and the reason of varying of them, according to the Nature of the Persons and Parts, Ages, Temperaments, and other circumstances: All which are acquir'd only by diligent labor and study; so that it is but a Vulgar error to think that these illiterate people can understand, or do any thing considerable, in this worthy Art of Chirurgery; but only at Adventure: For all they pretend to so much skill by their Hyperbolical and
Romantic

The Preface &c.

Romantic promises, and pretences.
And now it is time to bid thee
Adieu.

Chirurgus

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Chirurgus Methodicus ;

OR, THE

Young Chyrurgion's
CONDUCTOR

THROUGH

The Labyrinth of the most Difficult
cures occurring in his whole Art ;
and whereby he is distinguish'd
from Empyrics, and Quack-Sal-
vers.

CHAP. I.*Of the several Sects of Chirurgions.*

BEfore we begin to Treat more
fully concerning the explication,
of the Nature and Excellency of
Method, and its *Indications*, &c.
you are to understand, that in the Art of
Physick, and by Consequence in Chirur-

4 *A Supplement to Brugis's*

gery, which is subordinate to Physick, there are three sorts of *Sects*, whereof *Galen* makes mention in his Method.

Now a *Sect* is a Collection of Men, which are of the same Opinion; but different from others, and those in Physick are *Methodical*, *Empyrical*, and *Dogmatical*, or *Rational*.

The *Methodical*, are so call'd, because they use but few Rules, and Precepts; the which they judge sufficient: Wherefore they say that the life of man is long, and the Art of Physick short, and blame the admirable *Hippocrates* for writing to the contrary in the first of his Aphorisms.

These say that there are but three sorts of Diseases, to which the Body of man can be subject to: The first, by astringion of Atoms, or unseparable Substances; whereof the Body of man, (according to their opinion) is compos'd. The second, by Relaxation of those Atoms; and the third is compounded of both: in such sort as some Atoms, are relax'd, and some compacted more than either the nature of the Body, or the part requires. Now that you may the better be able to understand the nature of this Sect, you must know that it had it's Original from the Philosophy of *Democritus* and

and *Leucippus*, who were persuaded, by some apparent Reasons, that the Elements and Principles of all natural things were very small, inseparable substances, which they call'd Atoms, which had neither first, nor second, nor other qualities; but according to their several situation, and positions, all qualities had their Original; so when any hot thing became cold, that was because the Atoms, whereof it was compos'd, were alter'd and transported: Upon which foundation the Methodics constituting their Art, they say that these Atoms, are the Principles, and Elements of the Body of Man; and that the health is in it's Essence and Perfection, when the said Atoms are in a certain and measur'd distance and position, the which if it was alter'd by Approximation, or unmeasured distance, then succeeded two sorts of Diseases, and the third, of the said two being mixt, wherein is a relaxation of some Atoms, and a Constriction of others. According to this theory they founded their Universal Method, upon three Principles, which they call'd *Communities*; which were deduced from the general Principle of all the Art of Physick, which is, *That every thing is Cured by it's contrary*: The first of these is, that a Disease,

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ease proceeding from Astriction of the Atoms, requires relaxation: The second is, that a Disease caused from the relaxation of Atoms, requires Astriction: And the third is compos'd of both: then making many other particular *Communities*, whereof *Galen* makes mention often in his Method; as that a simple Ulcer requires Union, an hollow one repletion, and an Ulcer with excrescence of flesh demands it's Consumption, and so of the rest. Now these *Communities*, though they are the first Judications, yet they are not a part of Surgery, or but a very little one; because they are known to the very Vulgar, of which more hereafter. Wherefore this Sect is often reprov'd by *Galen* the Prince of Physicians, next to *Hippocrates*, in the third book of his Method.

Themison began this Sect; of whom *Juvenal* speaking of old Age, says it brings with it, as many Diseases, *Quot Themison agros autumnus occiderit uno. Theffalus Trallianus* compleated it: After whom were *Dionysius*, *Antipater*, *Aphrodisseus*, *Ephesius*, now of this Sect there are but few now a days.

The second Sect is call'd *Empyrica*, which took it's Name from experiments, because your *Empyrics* contemn all Reason, saying, that the Nature of Humane bodies and medicines
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are inscrutable and incomprehensible by Humane reason; which they say evidently appears, because the most famous and excellent Philosophers and Physicians, that ever were, after great labour, and most diligent inquiries, could not comprehend what the body of man was compos'd of, nor other things produced by Nature. For if their Reasons, who say, that the body of Man is made of the four Elements, be well weigh'd, they may be found probable, 'tis true; but they will not be found to be necessary and inrefragable. And so the Opinion of *Democritus*, and *Asclepiades* is probable; who tell us that all things consisting by nature, are composed of an infinite number of Atoms, of the like Nature, Name, and Reason. From this controversy and contrariety of opinions, between such excellent Philosophers as *Hippocrates* and *Asclepiades*, concerning the first structure and composition of Humane bodies, the Empyrics conclude; that he would be accounted but a rash Person, that should dare to undertake to be Judge of the truth of their judgments. Wherefore, according to their judgment, since it is so that our Nature is unknown, it is better to follow and observe Experiments; and to build the Art of Physick upon things known by our Experience; mis-

prising the Knowledge given us by reason of the Elements, the Temperaments, &c. or from Diseases, and their Causes, and Remedies.

The Empyrics then constituted their Art of four things ; of *Nature*, *Fortune*, *Revelation*, and *Imitation*.

As to the first, The Empyric seeing a man taken with a vehement Fever, towards the removing of which he ordered no remedy ; and yet it terminated by a bleeding at the Nose, or some other part ; which proceeded from the strength and providence of Nature ; than he judges and reserves in his Memory, that to a man taken with such a like Fever, *Phlebotomie* by Art, must needs be necessary, or at least conducive. In like manner the Empyric, takes part of his Theorems from the observation which he makes of the Nature of Brute Beasts ; as when from the Imitation of the Stork, he makes use of Clysters. Also when he useth certain Medicines, which he hath known to be profitable against Venome ; the use of which he was shewn by Beasts.

Then for the second, If any one being troubled with a pain in the hinder part of his head, by *Fortune* fell upon some stone which caused a Flux of blood from the forehead Vein ; by which his pain was appeas'd,

then

then the Empyric, being taught this by *Fortune*, deduces a Theorem of his Art, that Phlebotomy in the *Vena Frontis*, is profitable for a pain in the hinder part of the head : and if you shall tell him that *Hippocrates* hath made an Aphorism concerning the same ; he will answer you, that *Hippocrates* had the knowledge thereof, not by Reason, but by Experience alone.

Concerning the third, That which they knew from the *Revelation* of their Gods, or their Masters, or from Dreams, (which *Galen* did not always condemn in the Cure of Diseases,) was a Rule to them, chiefly when they had submitted it to the Touch-stone of Experience, which they had found conformable to them.

For the last, the Empyrics make mutation and imitation from the similitude of one disease to another, of one part to another, of one remedy to another, from some likeness inducing them thereto : The which we see done often ; as when they learn'd the use of *Ung. Sarracenicum*, in the Cure of the Venereal disease, which was first invented for the Cure of the Lich, &c. a long time before the said disease was so common : and we do so likewise, when in malignant Ulcers of the said disease, in the *Fauces*, we open the veins under the Tongue

after having open'd the cephalic, which hath been found to be profitable, as in *Angina*.

All which may be exemplify'd in several particular Cases which I omit, to shun multiplication of words without necessity. This Empyrical Sect, misprised the Anatomical Art of Humane Bodies; as their Brethren the Empyrical Chymists do at this day, against the opinion of the Dogmatics, as a thing execrable and cruel, which hath always been (according to what shall in the next place be prov'd by the Dogmatics) of grand efficacy in the Cure of diseases, and for several other Reasons brought by *Galen, de usu partium*, l. 17. c. 2. and alleged by Authors in Chirurgery.

The chief of the Empyrics were *Acron Agri-gentinus*, from *Pliny*, l. 29. c. 1. *Philinus Cous*, whom *Serapio* follow'd as *Celsus* says; *Apollo-nius*, Father and Son, *Glaucius*, *Menodorus*, *Sextus Heraclides*, &c. but *Crito*, *Philistrio* and *Serapio*, were after, as in *Lib. Introductor*.

The third Sect, is that of the Dogmatics; these enquire by Judgment and Reason, into the first Composition and true Elements of Humane bodies, besides the similar Parts which are the sensible, but not the true Elements of the said Body; into the Temperaments proceeding from the diversity of mixion of the Elements; into the faculties proceeding from the
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said temperaments and their operations; into the Nature of diseases; their Causes, and Symptoms depending upon them, and by which they are known. Then they make enquiry into the Nature of Simples; and the manner of compounding them by Art; the fit time and right use of them, which are things that require a long time; and the which to comprehend, the life of one man alone would not be sufficient, if it be compar'd with the invention of them; wherefore *Hippocrates* said most rationally, that Man's life is short, and the Art of Physick long; the which is not to be understood in a strict Sense as many do. For he does not mean, that a man cannot, with help of the Labors of the Ancient Philosophers, and Physitians comprehend the Art of Physic; but that he cannot, by reason of the shortness of his life, invent it and acquire it compleatly without help.

And now, although reason for the most part, be the director of this Dogmatical Sect, and the Dogmatics; yet if they know by experience, some Medicament, of the effect and virtue whereof no Reason can be given, (as are those which operate by an occult quality) they do not reject the use thereof, but accommodate it to their Art, to render it thereby the more rich, and abounding in remedies, and

and thereby the more easily to attain to the pretended end of their Art ; which is health.

The Prince of this Sect, as the most excellent was *Hippocrates* the Oracle of Physic, then *Erasistratus*, *Diocles*, *Herophilus*, and divers other great Philosophers, well exercised in Natural Philosophy : the chief of which and most praise worthy of all, next to *Hippocrates*, was *Galen*, who with his most learned Commentaries hath explicated *Hippocrates*, distinguishing things that before were confus'd, and supplying what was wanting, so that he may deservedly be called the second Prince of Physicians.

These say, against the opinion of the Empyrics, that Anatomy ought to be practis'd, even sometimes upon living bodies: The which *Herophilus* did, who obtain'd, from Kings, men that had merited death for their Crimes, and dissected them alive, thereby to know several inward operations, which are abolished in dead bodies ; as the inward motions of the Vital Parts, the *Diaphragma*, Lungs, &c. of the Comprehension which the stomach makes of the Food, while it transmutes it by is coction. And they say that it is laudable, by the torments of a few wicked Men, to profit the health of innumerable Virtuous

ones. And it's very like that they gave them some Narcotic, or Stupefactive Medicines, to abolish or diminish the Sense, and consequently the pain; which hath been sometimes counselled to them that were to be cut for the Stone in the Bladder. The Dogmatical Physicians, Anatomize dead bodies also, thereby to acquire the Knowledge of things of grand import and profit, in the Art of Physic; as

First to know the substance of each part; as that the heart is of a Musculous substance; the livers substance as it were blood coagulated. Secondly, The quantity of a part; as that the Liver is of such a magnitude and greater than the Spleen. Thirdly, to know the relation of the parts; as that there is a communication between the Stomach and the Brain; and likewise a Sympathy between the Orifice of the Stomach and the Heart, by reason of the *Arteria Aorta*; which, mounting above the Spina, associates it self with the said Orifice: And from this Theory proceeds the Knowledge of diseases which come by consent, and which are Primary; which is a thing that imports very much towards the Cure of diseases. Fourthly, To know the quality or temperature of each Member, by the help of reason; as that the Liver is hot and moist; because it's of a sanguine complexion

plexion; as that the bones are cold and dry because they are exsanguos. Fifthly, to know the number of the parts; as that there are two membranes of the Stomach, six lobes in the Liver, two Lungs, &c. Sixthly, to attain to the knowledge of the figure of each part; as that the Liver is partly hollow; and in the other part where it reaches to the *Diaphragma* 'tis Gibbous: As also Seventhly, to know the Action and Profit of the parts, as that the Heart is the Principle of the Vital Faculty and Motion. Likewise that the bones, although they have no action, yet they are of profit to the body, either to sustain it, or defend the Noble parts, as the *Cranium* does the *Cerebrum*, and the Pectoral bones the vital parts. Then Eighthly, Anatomy serves us whereby to know the Situation of the parts of the body; as that the Liver is situate in the right Hypochondria, and the Spleen in the left, &c. Ninthly, It helps us to know what part is affected and offended in a disease; as that the Yellow Jaundies proceed from the Liver, and the Black from the Spleen; the Pleurisy proceeds from the membrane adjoining to the Ribbs, &c. which were all Collected from the documents of the great Physician *Galen*, by *Alexandrinus* a learned commentator upon *Hippocrate's* book of Popular

Popular diseases. Lastly, it is from Anatomy that all the chief improvements have been made in Physic; as the circulation of the Blood, &c. as Dr. Goodal hath learnedly demonstrated against the *Chymists* at this day. And now because this best of Sects proceeds by method in the Cure of diseases, and by consequence by Indications, which are sometimes Simple and sometimes Complicate; let us now treat of them, succinctly and in Order.

CHAP. II.

Of Method, Indication and Complication.

Method then is, as it were, a conduct or safe and sure way, whereby to come to some Intention: Or, according to *Galen*, it is an Universal way to attain to the truth which is common to divers particular things. Now to the constituting a Method of curing diseases, there are two things required: A direct order of Indications; and an artificial and legitimate administration of Remedies.

Indication then is an insinuation, sign or instruction of what is to be done: So that

Indication

Indication shews the invention of that which is to be done : for to invent a thing by Indication is to begin at the Nature of a thing ; then to invent without Experience, that which is consequent to that Nature. Now the invention of things found out by Indication, is founded upon four general Rules, whereupon depends the whole Art of Method : Whereof the First is, *That that which is according to Nature requires or indicates its conservation.* The Second, *That, that which is against Nature, indicates its Ablation.* The Third, *That conservation is perform'd by things of a like Nature.* The Fourth, *That Ablation is caus'd by things of a Contrary Nature.*

Now these general Rules are particulariz'd according to particular or special Indications; as that an hollow Ulcer indicates repletion an hot intemperature refrigeration, and each of these special Indications are deduc'd from the two general ; then indication is taken from each of the three things, upon which all speculation in Physic is founded ; that is first from things Natural, as the faculties of the Body, &c. Secondly, From nonnatural things, as the disposition of the Air, &c. Thirdly, from things against Nature, as Diseases and their Causes, &c.

As for Complication that's an *Aggravation* of several things, whereof each proposes it's *Indication*: By which definition you may perceive that complications are not mentioned but in regard of *Indications*. And as *Indications* are taken from things *Natural*, *non Natural*, and *contranatural*; so complications are taken from the said things, and in several manners. First, From things natural, and unnatural; as from the faculty, and the disease: Secondly, From things *Natural* and *non Natural*; as from the *Temperament* and *Complexion* of the Patient, and from the disposition of the Air which encompasses us. Then from divers things against Nature, as in wounds and apostems, as an *Ulcer* with a *Varix*, *Fluxion*, or *Distemperature*. And as concerning the complication of a disease with a *Symptom*, that is reduc'd under the complication of a disease with it's cause: For a *Symptome*, as a *Symptome*, indicates not; wherefore it cannot be said to be complicate; but is as a cause when it exceeds. And because it is not enough to know these things by *Theory* only; but that we must accomodate them to the *practic* part, which is the end of the *Theoric*; we must therefore, in all our practice, regulate the aforesaid things by certain *Rules* deduc'd from *Galen* in his *Seventh*

venth Book of his *Method* to accomodate them to practise.

We must then consider in complications, the most urgent thing, the Order, and the cause. This Artifice is of grand efficacy; and is as it were, a thred to lead the Artift out of the Labyrinth, or intricate and confused Maze of complications; which otherwise are very difficult to regulate, chiefly to your Empyrics: First then you must consider the most urgent; which is that whereupon depends most danger: As if there be a complication of an Apostemation, Flux of Blood, Intemperature, Convulsion, Pain and Ulcer, then if Convulsion be the most urgent, you must first direct your intention to that, without neglecting your other Indications: And as there be several Indications, whereof one is most material, so must your remedy be contriv'd, as having always respect to that. Secondly, You must consider the Order of complicated dispositions: For sometimes their Complications is such, that one requires to be removed before the other, and nothing can otherwise be done; as when an Apostem and an Ulcer happen to be together in one part, it is necessary in the first place that you remove the Apostem; for he that shall attempt to Cure the Ulcer first, will attempt

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an impossible thing, in regard of the Order that belongs to such dispositions; because the removing the Ulcer cannot be accomplished, except the part which it possesses be healed; which can never be effected as long as there is an Apostem. Thirdly, When there are several dispositions complicated, whereof one is the cause of the other; you must, in the first place, follow the Indication of the cause before that of the effect; which is always *Galen's Document*; but chiefly l. 3. *Artis medic.* As when there is complication of a *Varix*, *Ulcer*, and *Fluxion*; you must direct your first counsell to the *Fluxion*, removing the quantity or quality, which caus'd it; and then you must betake yourself to the Cure of the *Varix*, and lastly, of the *Ulcer*, of which more following.

CHAP.

CHAP. III.

A more particular account of the premises ; and of the first Indication.

YOU must know then besides what hath been said in general, in the former Chapter, concerning Method, that there be several sorts of Methods ; some are proper to the handling of Sciences, and are divided into three kinds, *viz.* when you treat of Sciences by way, either of Composition, call'd in Greek *Synthetic*, in proceeding from things simple to things Compounded ; or by way of dissolution, nam'd by Greeks *Analytic*, contrary to the other ; or Lastly by the way of Division and Definition ; which they call *Horistic* in Greek ; the which kinds of Method are comprehended by *Galen* in his little Book *de Constitut. Artis*. The other kinds of Method belong to all sorts of Affairs. which are in the management of Man ; as the Method of building an House, &c. but the curative Method and sure way of healing is that which is guided by Indications.

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Now this word Indication is proper to Physicians only, and out of the common use of the Vulgar; for every Art and Science hath it's proper and peculiar Manner of speaking, which is not common to others. Method then of curing diseases is conducted by Indications, two manner of ways; *viz.* by the means to find them out, and by the means of curing by them. The means of finding them out, is by the Art of Division; for you may divide them into two manners; but the most common is into three kinds; in dividing each into several particulars. The first is concerning things Natural. The second, of things Non-natural. The third is of things against Nature; although *Galen* reduces the two first into one, *l. 3. Meth. c. 8.*

Things Natural then indicate, to the Artist, that they ought to be conserv'd, by their like; and from this kind the Indication is call'd Conservative; although it be serviceable towards the Cure. As for the things Non-natural they indicate almost the same thing. But then things against Nature they indicate to be removed or prohibited, by their contraries: Now such Indications are of two kinds; for if they be taken from external and primitive Causes, not permanent, because they admonish us to preserve our selves, they

they are called by *Galen l. 4. c. 3. Meth, Preservatives*; although he dare not call them properly Indications. But if they be taken from the Essence of the disease, or from internal causes, as well antecedent as conjunct, then they are truly and properly named *Curative*.

Now there are several kinds of *Conservative Indications*; some regard the strength and faculty of the Person; to conserve which you must often omit the principal Cure. Others have an eye to the Natural temperature and complexion of the Body; from whence they take the Name; making us to consider whether the body be hot, or cold; dry, or moist, simply: Or whether it be hot and moist together, or hot and dry; or cold and moist; or cold and dry. Moreover whether it be Choleric, or Melancholic; Sanguine, or Phlegmatic. Others consider the habitude, whether it be, delicate, fine; a little Body, or a corpulent and robust, &c. others are concern'd about the Nature, and Complexion of the part where the disease is, from which part the Artist may deduce several indications; as from it's substance, whether it be similar, or organic: If similar, whether it be hot, cold, dry, or moist; or hot and dry, hot and moist, cold and dry, cold and moist:

And

And whether it be soft, as the flesh; or hard, as a bone; &c. If Organic, whether it be Principal and Noble, or as a Servant and less Noble; or not Noble at all. In like manner you are to take Notice of it's habit; or to speak better, with *Aristotle*, of it's natural strength, or weakness; as of it's sharp and delicate sense; or it's dull or slow feeling: As *Galen* writes l. 4. c. 7. *Meth.* Also you are to take your indications from it's Essence and Composition, viz. from it's form, figure, magnitude, number of it's Parts, of it's Relation, and Situation, and lastly, of it's actions and use: for from all these things ought the Artist to take his Indications in the Cure of the disease, which happens to the said part, to conserve it in it's Natural being, by removing that which is Contra-natural to it: and here one might comprehend with this first of Indications, that which the Artist takes from the Sex, because it is almost one of the things Natural.

CHAP.

CHAP. IV.

Of the Indications from things Non-Natural

THe Indications from Non-natural things, and which are without the substance of the person, are likewise of several sorts: For some concern the Age, which is nigh a kin to the things Natural; others bear the name of things which are altogether without the Nature of Man, viz. the Air, as well that of his Nativity, or Country, as that where he lives, and is habituated to it: Likewise the season of the year; as also Education and Custome. From which things, as if they were Natural that is of the natural substance of the Body, the intention is to conserve them; and not to give to the patient things contrary to them.

But here you are to remark that these Indications of the things Natural and Non-natural, tend to some other end than to conserve them by their like: For they are also to be considered and taken with an intention to show and advise the Artift, whether he may use the same Medicaments and the same means

means to Cure the same disease in a diversity and difference of the aforesaid things : And so upon this account they are also called curative Indications. For they make the Artist to understand and distinguish the diversity of Cure of the same kind of disease, in divers respects, and according to the difference of complexions of Bodies, parts of the Body; of the age and custome, &c. as before said, whereof they are Indications, and Signs ; and give us to understand, that besides that there happens sometimes that the disease it self, is not only not curable in all complexions, in all Sexes, in all Parts, in all Ages, in all Seasons, in all Airs, in all Customs and manner of Living ; but also where it is curable ; yet it is not so by the same means. For, in truth there are some parts, and some persons, some Airs, and some Seasons, or dispositions of times, where the same Malady is curable ; and where it is not. As for example, an Ulcer in the Lungs, or in the Nervous part of the *Diaphragma*, or within the Bladder, can not be cur'd, by reason of the part they possess. The same may be said of the Region, or Country where some diseases are more difficult to be cur'd than in others. And so, many diseases are curable in young, which are not in old persons. For the sea-

son it is clear, some diseases are sooner cur'd in one than in another, and so the ingenious Artift may judge of other Indications.

Now concerning those diseases that are curable, but not always by the same means; to clear this point, let us suppose the Artift had a Patient of a cold, dry and melancholic Complexion, of a thin, little Body; accustomed to study hard, and dwelling in some solitary place, and in a cold and unhealthful Region; in a darkish and unpleasant house, using a gross dyct: and this person hath a tertian Fever, in Winter, or an Ulcer with a Flegmon in his Eyes, or some other Universal, or particular disease. Then suppose he hath another patient, of another Age, of another Natural complexion, &c. having the same disease, either in the whole body, or some particular part, but in another season; the same disease is not curable by the same means, used to the one as to the other. For there is a grand difference in all Indications, as well from things Natural, as Non-natural.

Or, to pass by so many differences together, let us but take one in each Example, and put the case all other things are a like, and agreeable; put the case I say the Artift had a man and a woman who were troubled with the same uni-

versal

versal disease, as a Fever, for Example; or some particular disease; these diseases must not be cur'd in one as in the other; because they are of a several temper, by reason of their Sex. So likewise in a soft and delicate body, &c. the disease is not to be cured by the same remedies as in an hard, robust, rustic one. For so many differences of habits, so many differences of Medicines: Likewise it is not possible that a Fever of the same kind, or an Ulcer, or another disease in a Phlegmatic body should be cured after the same manner, as in a Choleric one; or in a dry, as in a moist body. For different complexions require different remedies.

Then for the difference of parts, take two men of the same complexion that are alike in all things else, that have the same kind of disease in several parts; now this is not to be cured in the one as in the other; no though it were in the same one man. For each part is to have it's proper remedy; and as many things as are to be considered, as well in a similar, as an organic part; so many are the Indications thereof, and by consequence so many medicines convenient for them. For an Ulcer in the Eye, is not to be cur'd as an Ulcer in the Ears; nor a Flegmon in the Throat, as in another part: The Artist must

not repercuss it in the beginning, when it is nigh a noble part, as when it is far from one. A solution of continuity is not to be cured in a nervons part as in a car-nous one; in a dry part, as in a moist one.

As to the Indication of the season; suppose the Artift hath under his hands the same disease in the same parts, or in the same Complexi-
ons of patients; but in several seasons: he cannot cure this disease after the same manner and with the same Medicaments: For each season or disposition of times requires its Me-
dicine to be different from another. The same may be said of the Air, whether Natu-
ral or other. If any one finds himself sick in another Air, than that of his own Coun-
try, or of his ordinary habitation; he can-
not be cured by the same means, not tak-
ing Indication from the difference of Airs.

The Indication of the State, Custome,
and Fashion of Living, brings much diffe-
rence to the use of Remedies; for the same
disease is not to be handled after the same
manner in one of the long Robe; as in one
of the short, as they say, in a Citizen as in
a Country man; or in a Carter, or Mariner,
or Soldier: In one that is accustomed to the
cold, as in one us'd to the heat; in one that

is always us'd to drink Wine, or strong Beer, or Ale; as in one that never drank any; although they were of the same Age, and had the same disease, in the same time; and differing nothing in other things.

Then for those that differ in Age, and have the same disease; a young man of the same City (put the Case, he were alike in all things, as well Natural as Non-natural, to a man of another Age, although all these resemblances cannot be) nevertheless by manner of example, hath the like disease, even in the same part of the body; it is not possible that it should be cur'd by the same Medicines in the one as in the other; because there is need of as many Medicaments as Indications; and each Age hath it's Indication. And yet sometimes may happen a thing that will seem strange, and which is very curious; which by reason of the difference of the Age, the contrary complexions, as well of the body, as part affected, hath a Relation, as it were, to a like complexion, and may correspond to the same means of curing: As suppose an old man, hot and moist of bodie, who hath an hollow Ulcer, in a part of the same temper: and suppose a young one to the quite contrary, whose body is cold and dry, having in a part of the same temper,

per, such a disease as the other; you'll ask me, must I apply the same Medicament to them both? I answer, perhaps yes; provided that the heat and moisture of the one, in regard of his old Age, shall not in any thing be different, from the qualities of the other, by reason of it's youngness: It being probable, that the qualities of the young man are not so cold and dry, that they be not so hot and humid, as those of the old mans who is of an hot and humid Complexion.

CHAP. V.

Of Indications from Contra-Natural things.

THESE are properly those which are called curative; and are of several sorts. Some are produced from the Essence of a disease, whether it be homogeneous and simple; or heterogeneous and compound; others are deduc'd from the cause a disease; as well antecedent, as conjunct. Others proceed from the Symtoms or Accidents which accompany the said disease: all which Indications signifie to us that the Intention of the Cure

Cure ought to be accomplish'd by the using of things contrary to the disease, it's causes and symtoms.

Now I divide these Indications into some that are taken from things within, or from the Effence of the disease; and those without it. Those from within are of two sorts; the first is proper to the name and definition of the disease; which sort is general and common to the whole Cure of the disease: The second, to the differences and accidents of the disease, as well separable as inseparable; and this is proper and particular to the said Cure. Those of the first kind are Universal and limit not, nor shew us neither the means, nor the possibility (if there be any) to come to the intention of the cure: As for example, when I suppose that the disease is an Ulcer, without adding the differences thereof, the true and proper intention signify'd by the said universal, and first Indication of the said Ulcer, is that the Artist must dry, and unite it by a desiccative and agglutinative medicine; but the said Indication neither limits the means, nor the possibility, how, by the said Medicament, we should come to this Intention. Now those of the Second sort, which I said were particular, limit and specify; not only the said disease; but the Me-

dicament proper to Cure it: As the Indications taken from the longness and largeness and profundity of the Ulcer: It's figure, situation, streight, or oblique, high, or low; it's equality, or inequality, &c. and certain other proper differences of the said Ulcer: And so do likewise the Indications which are taken from the Antecedent or Conjunct causes of a disease, or from the Symtoms thereof; and amongst others those which *Hippocrates*, as *Galen* says, is the first Inventor the which are taken from the greatness and vehemence of the disease.

The Indications which I call from without are likewise of several sorts. For I divide them first, as the Rhetoricians divide the Reasons of praise, or dispraise; into two kinds: The one of which they take from the Topics of the persons; the other from the Topics of the things which are without the persons. The Indications taken from the Topics, and persons, are those which we discoursed of before of things Natural; and almost Natural; as the Complexion of the body, it's strength and natural Habit; Sex, Age, Education and Custome: as also of the temperature of the part, it's composition, that is to say, of it's substance, form, figure, magnitude,

nitude ; it's situation, and relation ; of it's feeling, whether acute and delicate, or dull and gross : Of it's action and profit, &c. the Indications brought from the Topics without the person, are the other circumstances which are called Indications from things neutral, which are neither Natural, nor Contranatural ; that is, which are neither of the substance of the person, nor of the disease, as the time, season of the year, Air of the Country, and abode ; and the Air which encompasses the patient ; with the temperature of each of all these.

Now all these Indications abovesaid taken from without, as we said of those of the Second sort of those from within, which are taken from the proper differences of the disease, are then called particular, when they are joyn'd to the said disease, as circumstances thereof : Which as soon as they specify, limit and determine the same, and render it particular, do also determine, particularize and modify the medicament ; which otherwise was indetermin'd and common to the said disease. Wherefore as the Grecians call a *Thesis* an Universal proposition, undetermined, and not restrained to any circumstance. And the same proposition, an *Hypothesis*, when some circumstance is supposed ; whereby it is

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limited,

limited, as a certain person, time, place, or other thing : So we may suppose the disease, as a *Thesis*, which is not limited, or determinated to any Circumstance ; but is considered generally and universally ; and that Indication taken from it, we may call *Thetic*, that is, absolute and positive ; that is, without any regard of any special thing, the which, for this reason, shews us neither the possibility, or impossibility to remedy the said disease ; and determines not the proper remedy for it. And I call the said disease, as it were *Hypothesis*, when there is supposition of any of the Circumstances aforesaid, by which it is limited and particulariz'd : And the Indications proper for the Cure thereof I call *Hypo-therics*, and suppositives ; and the which being taken from the said Circumstances and Differences, specify, determine, and modify that Medicine, which is convenient for the disease, and declare the possibility or impossibility of curing it. Wherefore, to be short, I distinguish also the names of all the Indications aforesaid. Those which are taken from within ; from the pure essence of the disease, and not from the differences, causes or symptoms and accidents thereof ; we may truly call them the primary, but not the principal indications of the cure of the disease: Com-
mon.

mon Indications, general Indications, or universal Indications of the cure : Indefinite Indications, and without regard to any difference, as Circumstance ; Thetical *i. e.* positive Indications : Indications which universally and generally shew the Cure of the disease, not limiting or specifying the remedy ; that is, not declaring the manner if it be possible, or impossible to remedy it.

Now those Indications which are taken from within, but from the Causes or Symptoms of the disease ; and all those taken from without, are called second Indications, and yet the principal in the Cure of the disease ; proper Indications, particular Indications, special Indications, hypothetical Indications, that is, Indications in the Cure of a disease, wherein we suppose some Circumstances and certain things to be joyned thereto. Which Indications, demonstrate in particular, limit, specify, modify and appropriate the remedy and medicine, which otherwise was undermin'd and general for that disease, and not agreeable to any difference thereof, nor to any person. And to speak more clearly and summarily, they are Indications of possibility, or impossibility ; that is, of the manner how it is possible, or not, to accomplish the intention of the first Indication.

And now having cleared, as I hope, and made easy, this doctrine of Indications, which you may perceive is of so grand concern in the Curing of diseases, methodically and not empirically ; yet some may think it strange that we should trouble the Artist with such a number of them in the Cure of a disease ; since several, that have the repute of able Physicians , make use but of one, and that is, that which is taken from the essence of the disease ; from which Indication , the Scope and Intention is to cure the said disease, by it's contrary ; as Reason guides us ; and it is the common opinion of the two grand Luminaries of Philic *Hippocrates* and *Galen* ; so that it must follow that this Indication alone deduced from the essence of the disease, will be sufficient to find out the means to Cure the said disease, without any other.

But I answer, the Consequence will not hold good ; for the agreeing to that which so many great persons say, and not denying, but that it is rational that the disease should be cured by it's contrary ; must not therefore cause you to infer, that the Indication taken from the essence of the said disease is sufficient : Which being admitted for necessary, will not take away the necessity of others. We hold this Indication for the Primacy, as
I said

I said before, but not the principal. For, as *Galen* says, it indicates not the means, whether it be possible to cure the said disease, or no, as the others do; the which for this reason, are the principal and necessary. And as Philosophers, to conclude their Questions, use several demonstrations and arguments necessarily probable; and your Orators use all sorts of proves, whereby to come to the Consequence of their purpose, and to close up their orations: so Physitians, to attain to the Intention of the Cure of a disease, make use of all sorts of Indications; and must not be regulated by the example of Vulgar Physitians who vaunt themselves, to be Methodists; but are in a great Errour, and endanger their Patients, by following and observing, this one Indication alone, taken from the Essence of the disease; being mistaken for want of understanding that common Maxim, aright (*viz.*) *that the contrary is cur'd by the contrary*, &c. For this Maxim comprehends, that there is a necessity of following and observing other Indications also, which shew us several means to attain to the Cure; as may be proved from that great Physitian *Galen*, concerning which hear what he says.

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38 *A Supplement to Brugis's*

The first Indication (says he, in the beginning of the third and fourth of his Method) is not a weighty part of the curative part of Physic, but the beginning only, and foundation thereof: Neither indeed, is it a thing proper to Physic, being common to simple People, even to Children. For in this Indication is neither any Art, or Cunning; nor any other Ingenious matter, that is not wholly common and manifest to every one. For the simple Mechanic and ignorant people, if they feel or perceive any member out of it's Natural place will tell you that it must be reduc'd to it's Natural place; and they can tell you also that an Ulcer must be clos'd up: That a Flux must be stop'd; but they know not the reasons and means by which these things are to be accomplished and put in execution. And it is this which ought to be ordered by the Physitian the true Curer of the disease; who alone is able to invent the things, by which shall be accomplished that which is insinuated and given us to understand by the first Indication.

These are the Golden Words of the second Prince of Physitians: And all these reasons and means, which the Physitian must invent to come to this intent; or to know if the disease be possible to be cured or no, do we find from the particular Indications aforesaid, as well of things Natural and Non-natural, as Contra-natural; which restrain
and

and limit the first Indications being joined with it.

And now by this discourse of Indications I hope the Artist will easily perceive that the Method of Curing is guided by them ; and that the Cure of diseases is the work of reason chiefly, and not experience : For, as is said before, although your Empyrics, and little sort of people, say well, that all solution of Unity requires Union ; and that to every disease, it's contrary is requisite ; yet it is the work of an able Philitian to know, whether the said Union to every solution of continuity be possible or no ; and if it may be accomplished in all the parts of the body ; or if in some it cannot.

For every Natural thing being alienated from it's own Nature and Degree of perfection, requires, by a certain Natural Instinct, as it were implanted in it, a reparation, restauration or restitution, and to be replaced in *Statu quo prius* ; that it may thereby conserve itself ; until it's Period allotted it by Nature, which is insupportable : Though Natural Beings may come to their end by violent causes before the time of the said Period. And when Nature hath accomplished this reparation equal to that which it lost ; she hath then arriv'd to her first intention.

But

But if this Natural Being, be not so happy as to replace it self in it's first degree of perfection; but shall search out other means that shall come nigh to this restitution, and she shall attain it, then we say she hath restitution made her, according to the second Intention; being disappointed of the first. As for example, when there happens a deperdition of the substance of a bone; Nature without doubt, endeavours all she can to have a bony substance restor'd her in lieu of that she both lost; but being frustrated in her design, or not being able to attain it; what does she do, but goes another way to work, and creates a certain substance in the place thereof called a *Callus*; which she makes of part of the nourishment due to the said bone; and this she does, not by her formative, but nutritive faculty; being Deputy to the formative Virtue, being absent; and in case of necessity, executing an Office, not proper or essential to her, for her duty is to repara that which is consumed by the Act of the Natural heat.

For, as the same Galen says, *loco citato*, The common and simple People are ignorant, that the nervous part of the Diaphragma, being wounded, cannot be consolidated: That the prepuce cannot be united; if cut asunder; if putrefaction, or rottenness

rottenness in the bone, be curable, as well as cro-
 sion in the fleshy: If a Fracture may be united as a
 wound: Or whether the said fracture may be uni-
 ted by a Callons substance. Moreover, they under-
 stand not, if in fractures of the Scul, we must
 attend the generation of a Callus; or if it may be
 cured, after another manner: And to say all in
 a Word, your common people understand nothing
 besides the first Indication; and all your Em-
 pyrics know not much more, although they make
 great boast of their experience; which though it
 be one of the two Instruments of all Invention, yet
 it cannot, like Reason (which is the other Instrument
 of Invention) find out, nor shew us the substance
 of the part where the disease is, nor it's Action, or
 it's use, or utility; nor it's situation, or connexi-
 on, nor other things from whence we take our
 particular Iedications; by means whereof every
 rational and Methodical Phisitian is able to foresee,
 not only diseases incurable, but also those that may
 be cur'd, and the remedies wherewith they are
 to cured.

By this learned, profound and curious dis-
 course of Galen, the Artist may plainly see that
 the means of the Emphyrics and Quacksalvers
 bragging and boasting of their grand cures,
 and their vaunting themselves to be as know-
 ing and expert as the Methodics, is remov-
 ed out of doors; because the Indications and
 Reason

Reason are the only means which separate them, and make a difference between them. As for their experience they may brag of, Alas, it is not made from one or two, but confirmed by a long tract of time, in many patients of both Sexes. As for Example, it hath been experienced that a Cancer was cured in a certain Woman, with leaves of Netles, bruised with common salt; but therefore it will not follow this is approv'd of by experience; for apply'd to several others it wrought no effect.

And hitherto have we explicated the means how the Artist should find out his Indications; by which he is to be guided; having declar'd first what an Indication is; next how many sorts the Artist is to make use of, in his conduct of curing diseases; Which is the first and general: Which are the second and special ones; and which are the principall: So that it is time now to let him know how he may use, and help himself, and patient by the said Indications.

CHAP. VI.

*Of the use to be made of the aforesaid
Indications.*

THE means how the Artist may know how to make use of the aforesaid Indications are two-fold. The first is treated of in a general way, by certain Rules of each Indication, considered by it self, without conference, and in a special manner by example in each kind of disease, as by Examples in Ulcers, we shall declare to you presently; when we shall speak of the Curative Indications of Ulcers. The second treats of the Conference and Excellence of the said Indications concurring in one disease. We shall wave, for the present, the first means of using the Indications, which treats of the Rules of Indications considered simply and by themselves; and come to purpose to enquire into the Excellency of those that coming to rencontre one another are of different and contrary Natures, either in a simple and sole disease; or in a compounded or complicated one.

And

And here it seems that the great *Galen* gives us a light into this enquiry, *l. 3. c. 9 Method. Medend.* in which place he says, that it often happens, that contrary Indications will meet at the same time : And also all that is insinuated by them is put in execution, at the same time : Hereby giving us to understand, the contrary Indications taken from things Natural, Non-natural and the disease. Then he says, a little after, that it happens sometimes, that that which is insinuated by divers Indications, cannot be accomplished at one time ; signifying thereby, as may be supposed, the Indications taken from diseases complicated together ; which require to be cured in order, one after another, except some one must remain uncured : and so, as to this one enquiry, I shall answer, as if they were two enquiries : The one concerning the Conference of Indications contrary to things Contra-natural ; the other as concerning the Excellency of Indications, of things as well Natural and Non-natural, as Contra-natural.

As to the first, I thus distinguish ; either there is another complicated, urgent and perilous disease, or not ? If there be a complicated, urgent and dangerous disease, it Indicates to us, that it is our business to begin
the

the cure with it, notwithstanding that by this means there remains one incurable ; or that we are constrain'd to make another which will remain without being cured. For the disease that is urgent and perilous, is sometime of such sort, that to cure it we are forced to leave another disease incurable : And sometimes there is a necessity that the Artist himself procure, the said disease, although himself cannot cure it. As for example, if the head of a Muscle be prick'd, and there follows a Convulsion ; which he cannot possible come at by Medicines, that by cutting the Muscle transversly he cures the Convulsion ; but then, at the same time, he deprives the part, where the Muscle is, of voluntary motion. Also, if in some great joint, there be a luxation or dislocation with an Ulcer ; if you try to reduce the said luxation or dislocation, there will immediately follow Spasmes and Convulsions, which are very dangerous diseases. Wherefore, to prevent the said Convulsions, we must imploy our utmost skill to cure the Ulcer, and leave the luxation without being cured. But when in Complicated diseases, we are not press'd, nor drawn aside from the principal Cure ; that is to say, from the disease proposed, we must observe this order, *viz.* following the Indication of the thing

thing which hinders most the principal Cure of the said disease; and the action of Nature, we must Cure that thing first: then the other (if there be several) by the same order and reason, so that none shall remain uncur'd.

As to the other enquiry, which was made concerning the conferring, or comparing of several Indications, which entercombat and are opposite among themselves; as well of things Natural, as Contra-natural and Neuter; how these I say may be follow'd and dispatch'd at the same time; I shall illustrate it by examples: As suppose an ancient man that hath been accustomed to strong drinks, and to eat often in a day, when he was in health; is now seized upon by a Fever; and that, in regard of the Fever, strong drinks, and often eating is contrary to him; but in consideration of his Age and Custome, they are necessary for him: behold here are three Indications disagreeing and contrary (*viz.*) two of the things almost Natural, *viz.* the Age and Custome; and one of the things Contra-natural, *viz.* the Fever; whereof the two first are Conservative, and the last Curative: Among which there are such contrariety, as that the Fever refuses the meat and drink; old Age rejects the often eating and not the drink;

drink; the custome requires eating and drinking. And now, because each carries it's weight with it, the Artift ought therefore to endeavour to make such an accommodation between them; that to gratifie the one, he must not forget the others: And yet they ought to be put in Execution at the same time. Now the Artift is to consider that the conservative Indication is of greater importance than the Curative: So that he must therefore leave something unfinished in the Cure of the Fever; giving his Patient meats and drinks often; although they be contrary to the Cure; in consideration of Age, to which strong drinks are proper; and to conserve Nature in her custome; curing the Fever by other means, and conserving the said things at the same time, if it be possible: and if it shall happen to fall in Winter, the Indication of the time will augment the permission to eat much, and drink Wines and strong Drinks, (*viz.*) Beer or Ale, &c.

Take likewise another example, answerable to another part of your enquiry; which is concerning the rencontre of opposite Indications, deduced from the same Topic of Natural things. Suppose then that in the Cure of an Ulcer, the Artift meets with a Body of an hot and humid temperature; as in a sanguine

sanguine, young man; and the part ulcerated be of a cold and dry Temperature; as about the Joints; or the substance about the ears, or the nose, or some other part where there is no flesh, or but little; and so he sees the Indications of the said Temperatures are contrary, in comparing them, with that of the disease: Now to judge according to the enquiry, if the Artist can accommodate and agree them all at the same time, and which require the greatest care in the Cure, the Artist must distinguish how many degrees the said contrary Temperature are distant from a mediocrity. For if they are equally distant; he must apply such a Medicament as he is us'd to do in a body of a middle Temperature, observing only the Indication of the disease. But if they be of an unequal distance, that which exceeds the other, draws to it self the fortifying, or mitigating the Medicament proper to the disease.

See here another example, not wholly unlike the last, but proper, farther to explain the solution of the enquiry: And it is of the conferring, or comparing of several Indications, of things Natural, and almost Natural, and of some Contra-natural agreeing together; although opposite, for the most part to the Indications of the principal disease.

Suppose

Suppose then the Artift hath under his Cure a grand and profound Ulcer, very painfull, in a tender young maid, delicately brought up, in a part of her body of the ſame Temperature, and very ſenſible; the ſaid Ulcer, as well in regard of it ſelf, as for it's magnitude and profundity, requires a more drying and ſharp Medicament: but on the other hand, the pain, the moiſt Temperature, as well of the body, as the part, the feminine Sex, the Age, the Soft Habit of the body, the ſenſibleneſs of the part, the Cuſtome and Condition of the perſon, which was never accuſtomed to labor, and who never endured any hardſhip; all theſe require leſs drying and more mild Medicines. In this Example the Artift may ſee many Indications, as well of things Natural as Non-natural which draw the Cure, each to it ſelf, in oppoſition the one to the other.

One example more a little differing from the laſt, and ſo I ſhall conclude; ſuppoſe an Ulcer in a part of an hot temper, and in a Summer, hot beyond-measure; now the Ulcer for it's part it requires a deſiccative Medicament, and the Temperature of the part ulcerated, that requires an hot medicine; the Air about the Patient is too hot and too dry and becauſe to the Air a cold medicine and leſs

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drying

drying is proper; and all this falls out at the same time: If the Artist shall ask to which of the said Indications he ought to be most intent? Which he should prefer? How he shall satisfy them all together? I shall answer in a few words; those of greatest importance, and of grandest consequence draw to them the principal Cure; and regulate the medicine, in moderating the other.

CHAP. VII.

Of things Natural, Non-natural and Contra-natural.

WHEREAS, in the former discourse there is often mention made of *Natural, Non-natural, and Contra-natural* things; if the young Artist be not acquainted with these terms before, from other Authors, he may then take this following short account thereof from me.

First then *things Natural* are so called because they compleatly constitute our Natures; and they are seven in Number; *Elements, Temperaments, Spirits, Humors, the parts of the Body, Faculties, Functions, or Actions.*

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The *Elements*, known to all, are *Fire, Water, Air and Earth*. The *Temperaments* arise from the mixtion of the *Elements*; and so a body is said to be simply hot, cold, moist or dry; or compounded of hot and dry; hot and humid: cold and dry; cold and humid. Then for the *Humors*, they are four; *Bloud* hot and humid; *Pblegm* cold and humid: *Choler*, hot and dry; *Melancholly* cold and dry.

Next the *parts of the Body*, and they are generated from the commixion of humors; and they are either *Principal*, as the heart, brain and liver, to which some add the testicles; or administering to the principal, as the Arteries to the heart; the Veins to the liver, the Nerves, &c. to the brain, the Spermatic vessels to the Testicles. Then the parts are some of them neither governing nor governed by others; but are governed by their own faculties, as Bones, Cartilages, Membranes, Flesh; &c. but what is here said must be taken in a sound sense: For Flesh receives from the Liver the Influence of the Natural faculty by help of the Veins; and of the Vital faculty by the Arteries; &c. then some parts exercise their own faculties, and those proceeding from others, as the *Abdomen, Reins, and Matrix*. Again a part may be divided into *Similar*, as a Bone, Cartilage,

tilage, Flesh, &c. which are so call'd because their parts have the like Nature with the whole: As an hundredth part of a Bone, is called a Bone; as well as the whole: And these are either sanguine, as Flesh, a Muscle, &c. or Spermatic as a Bone, &c. Secondly, Dissimilar, or Organic, because they are the Organs or Instruments of Operations; as the hand of Comprehension, and the Stomach of chilification; and so of the Heart, Liver, Eye, &c. they are called dissimilar because they are divided, as to the Sense, into other parts, which lose the Name of the whole; as a membrane, part of the Eye, is not call'd the Eye: Nor a bone, part of the Finger, is not called a Finger.

Then the *Spirits*, they are the most aery lucid, subtile part of our Body; and the chief Instruments of the faculties; they are three in number, *Vital, Animal* and *Natural*; the first is generated and resides in the heart and arteries; the second, in the ventricles of the brains, &c. and are made of the vital; *Galen* doubted of the third, yet Physicians, after him, allowed of them, and added a fourth sort, viz. the *Generative*, residing in the Testicles; which they say is compounded of the three other.

Next the *Faculties* are to be considered; a faculty is the cause from whence proceeds the Function;

Action; and Action is an active motion proceeding from the Faculty, and the Work is the effect of Action, as Flesh, Blood, &c. Action also is a work, as Sanguification, &c. but not the contrary; as work is not Action; as flesh is the work of Nature, not the Action. The *Faculties* and *Functions* are three fold, viz. *Natural*, *Vital*, and *Animal*. The first Faculty is inherent in Plants and Brutes; it affords nourishment from the Liver it's instrument, by the Veins; 'tis also called *Facultas Concupiscibilis* and *Auctrix*; 'tis diffus'd through the whole body, and yet is said to reside in the Liver, by reason of the Blood, the common aliment of the parts: but properly it's Subject is every part of the Body that's nourished and augmented; yet it needs the help of four Functions, viz. *Attraction*, *Retention*, *Codtion* of aliment, and *Expulsion* of their excrements. The Instrument of the *Vital Faculty* is the Heart; wherein it resides; it's the middle Faculty between the Natural and the Animal. The Organ of the Animal Faculty is the Brain, wherein it resides. To these some add the generative Faculty, which resides in the Testicles; since they say they are principal Parts; and serve wholly for the conservation of individuals, and propagation of each Species.

The *Vital Function* or Action belongs to the Heart, from whence proceeds the generation, and distribution of the Vital Spirits, to which the pulse is serviceable. The *Natural Function* consists in Nutrition and Augmentation, as abovesaid. *Animal Action* is performed by the external senses, or motion, or the principal Faculty; the senses are five *Seeing, Hearing, &c.* animal motion consists in the muscles whereby the parts of the body are mov'd by contraction and extention, and geometrically after divers manners: The Principal Function contains the imagination, or phantasy; ratiocination, or discourse, and the memory: Now all these things are Philosophical Contemplations.

And this is the description, in short, of the Oeconomy of our bodies, according to the Ancients. Now some moderns say, the blood is elaborated in the Heart, and that the Liver is but in lieu of a streiner to absorb the impurities, and send them to the Emunctories; and that it moves and winnows the Chile and Blood by the motion of the Diaphragma; and that it moreover cherishes the stomach: And so *Bartholinus* after *Pequetus*, shuts the Liver out of doors; as to it's office of sanguification; yet *Lindamus* professes that the Liver helps sanguification; but after another

tier manner than the Enthusiastical *Van Hel-*
mont, who thinks sanguification is made in the
 Mesenterie veins; as it were in the shop of blood
 from inspiration of the Liver. But whether
 any one receives the Ancient or Modern opi-
 nion, or whether the Heart or Liver be the
 organ of sanguification; the Ancient practice
 of Physic will not be thereby changed; says
 the learned I. D. *Horstius*, *Manuduct. ad Medi-*
cin. p. 108. but the same conservative and
 curative Indications will stand firm for ever;
 as the famous *Rolfincius* hath strenuously in-
 timated: And his most excellent assistant, Dr:
Moebius, in *Institut.* hath largely and elegantly
 handled this matter: therefore says the Learn-
 ed *Horstius*, *ibidem*, we owe thanks to God,
 that the *Methodus Medendi* daily grows splen-
 did, more and more, and remains the same;
 notwithstanding the disagreeing of some new
 opinions among Natural Philosophers and A-
 natomists; do not I pray, the Aristotelians
 and Democritists sharply contend amongst
 themselves concerning the Elements and A-
 toms? and yet they both cure after the same
 manner; as may plainly appear from what
 the Learned *Leichnerus* hath written concerning
 Atoms.

Next are the *Non-natural things*; and they
 are such as enter not into the composition of

our bodies; but are without us; and yet have power, inevitably to conserve us in health; or to cause diseases in our bodies. They are six in number, *viz.* first the *Air*, 2dly our *Eating* and *Drinking*, 3dly *Motion* and *Rest*, 4thly *Sleeping* and *Waking*, 5lyth *Retention* and *Expulsion*; that is, if those things are retained which should be expell'd 'tis hurtful to the body: and *è contra*, as the evacuation of blood, urine, monthly terms, &c. be suppress'd they oppress the natural heat, and putrefy: So if those things be expell'd which ought to be retain'd, or be evacuated in too great a quantity, the heat is exhausted, the Functions languish, and cold diseases ensue. Lastly, the Passions of the Mind as Joy, Sadness, &c. can help or hurt us.

Lastly, the *Things Contra-natural* are to be considered. They are three; first, A disease, secondly, It's cause, thirdly, It's symptoms. Now disease *a* is a *Constitution against Nature, which immediately and manifestly hurts the Operations*: 'Tis threefold; first, Similar; secondly, Organic; thirdly, Common to both parts *i. e.* Solution of Unity. The similar is simple, as hot, cold, dry, or moist; or compound, as hot and humid, hot and dry; cold and humid, cold and dry. Also 'tis either universal, as a Fever, or particular, as coldness of the Stomach, &c. or it is either material with superfluous

perfluous humor; or immaterial without it, as Inflammation; &c.

An Organic disease is either, first in *form* or *mole Composition* and that either in *Figure*, as when that which ought to be streight is oblique; or in *cavity* when the *meatus* are stopt: in asperity and leinty; as when that which, by Nature ought to be smooth is rough; as the *Trachea* which is sometimes exasperated by fluxion of humors. Secondly, *In number*, and that either, first abounding from things Natural; whereof the cause is multitude of good matter, as when there are six fingers; or Contra-natural, as the Stone in the Bladder, or worms in the Intestines; or 2dly wanting, by the total ablation of a part, or not total. Thirdly, *In Magnitude*; and that is either in the first formation, or after the birth: The first is when a part, or the whole body is lesser, or greater than convenient: The second is, by excessive growth of a part, or the whole body. Fourthly, *In Site*, or position; and that is when the parts possess not their Natural places, as in Ruptures, &c.

A common disease is the last; for all parts require Union, which is not the cause of action; but only a performance of the use. Solution of Unity is either in a similar part, as in a fractured bone, called *Algebra*, by the Arabi-

ans: in the flesh called a wound, or Ulcer; in the Nerves call'd *Convulsion*, or *Spasma*; in the ligaments *Apospasma*: in an Organic part it is called *Avulsio*.

Secondly, *A Cause* is any thing that produces a disease: and it is either, first *Procatartico* or *Primitive*, which causes the beginning, and then absents it self; as anger, &c. Secondly, *Antecedent*, which is produced by the primitive; as abundance of blood from copious valiment. Thirdly, *Conjunct*; by whose presence the disease remains; and when absent it ceases. Fourthly, *Causa per se*, which is ordein'd for some effect, and is expressed by a name denoting the Reason by which it causes it's effect; as heat is the cause of being hot. Fifthly, *Causa per accidens*; is that which is not ordein'd for the effect it produces; or which is not expressed by a name shewing the reason whereby it produces it's effect; as cold heats by accident; and heat is the cause of fermenting a thing also by accident, which proceeds from the intervening of another thing: For cold heats by closing the pores; and so hindring the issuing of the heat: and the heat ferments or elevates because it rarifies. Also when an effect proceeds from a cause that was not ordein'd for it; it is the cause thereof by accident: As when the making a ditch

to plant a Tree in, happens to be the cause of finding a treasure : although sometimes, according to *Galen*, a cause by accident is taken for a mediate cause, and *Causa per se* is taken for an immediate cause. Sixthly, *Causa immediata*, is that between which and it's effect there intervenes no other cause. Seventhly, *Causa mediata* when the contrary happens.

Lastly, A *Symptom*, or *Accident*, is a Contranatural thing which follows a disease, as a shadow doth the body : As Redness, Pulsation, Dolor and Tension, are Symptoms of a Phlegmon.

A

A
TREATISE
CONCERNING THE
NATURE
AND
FACULTIES
Of External Medicaments,
With the right manner of using and
applying of them.

AN D here I had made an end
but that I thought it might not
be from the purpose to write a
few words in general concerning
the Temper, &c. of External Medicaments,
the Artist shall make use of in his Practise;
Know then that when Physitians call this Me-
dicine hot, and that cold, &c. know I say, that
it is to be judged so only by it's Opera-
tion; when it is applied to a temperate bo-
dy; without enquiring what it is in it's own
Nature;

Nature; and what Element domineers in it. Know also that in the temperature of Medicines, there are assigned them four degrees, above the exact temper, which hath no degree; as being of such an exact temper. The first degree then of hot medicines heat, cold, cool, dry, dry, moist ones humect; but not manifestly, or sensibly: insomuch as they have need of some rational demonstration: the second degree, heat, cool, moisten, dry, manifestly, and sensibly, so that there is no need of demonstration. The third degree acts vehemently, but not extremely; Lastly, Medicines hot in the fourth degree burn and cause an eschar, as quick-lime: The cold mortify, as Henbane; the dry always burn, as actual cauteries: As to the humid *Galen* is silent. And now because all Medicaments ranked in the same degree, are not wholly alike, therefore there is, with great reason, assigned a certain latitude to each degree, which is divided into three; that is, first, second and third degree, of heat, for example, and so of the rest. And though the Ancients, before the time of *Galen*, did not so graduat their medicaments, as appears from *Dioscorides*; yet the Invention thereof is of great use and profit in practise. For it is not sufficient to apply to an hot disease any cold

cold Medicine, without any other limitation; or consideration : But according to the excess of the Intemperature, and offence in heat, so must the Medicament be proportioned in the like degree of contrariety ; according to Artificial Conjecture and the nighest to certainty ; and not always by certain and infallible knowledge, whereof divers Medicinal things are not capable : and now to particularize.

Here then we are to begin with *Adstringents* under which are to be comprehended all Medicaments that are of a condensing Faculty, as *Repellers*, *Epulotics*, &c. Now these perform their Functions, either without any manifest quality ; or with some acrimony, (as *as ustum*, &c.) which extenuate, digest, and produce an Eschar, and therefore are proper for fluxions of blood in wounds. Some bitter Medicines are of an adstringring, purging, and absterging Faculty, and are proper in inward and outward diseases. Salt things are proper for loose parts, and those that are flaccid from plenty of humors ; because they contract and constringe. Lax parts sometimes require only adstringents. Sometimes those Medicines are necessary which thicken the humors, if they be thin, and fluid. In fluxions and diseases, of the head, adstringents

gents ought to have also a desiccative quality, to strengthen the part, if the fluxion be cold; but if it be hot, mere binding and thickening suffice. Sharp adstringents are to be shun'd in the eyes; and ungratefull and malignant in diseases of the mouth; as also minerals in the diseases of the stomach; as also bitter sharp and acid in Ulcers of the Intestines. Adstringents are not convenient in all fluxions, nor always, nor in certain parts, but they are to be used only: First, When the matter is never evacuated by the Law of Nature: As blood, &c. Secondly, When there are bad Symtoms, as pains, swoonings, &c. Thirdly, When evacuation is in an incommodius place. Fourthly, Astringition is convenient in Ulcers, in the beginning to prohibit inflammation; and in the end to produce a cicatrice; but it is hurtfull in the progress and state of inflammations lest it cause a Gangrene.

Repellers are of a cold Nature, or of a thick, terrene matter; for many things repell only by their coldness, which adstringe not; as *Henbane, Letice, Poppy, &c.* Some hot things adstringe, which repell not; as *aloes, &c.* *Repellers* are convenient in the beginning of fluxions; cold ones are proper if the part be affected with great heat and pains; but the others if the part be only weak and lax,

to strengthen it: they are proper rather for hot distempers, then cold; and that only in the beginning; for in the progress you must add Resolvers. Now they hurt also in these cases; first if the humor be in the Emunctories of the Principal parts, (*viz.*) in the Groins, under the Armpits, or behind the Ears; lest they repell the humor to the part. Secondly, If it be venomous; Thirdly, If it be thick, or fixt in a part so that it cannot return; Fourthly, If the Fluxion be critical. Fifthly, If it be in a foul, cachochymical body before universal evacuation; *viz.* bleeding and purging; and sixthly, when the part is weak; lest repellers destroy it's heat, whence Scabs, Leprosy, &c. ought not to be repelled: They are proper in *Pblegmons*, *Erysipela's* *Ignis*, *sacer*, and such hot Tumors; and are us'd either in form of an *Epitheme*, *Fotus*, or *Cataplasma*.

An *Epitheme* may be made *ex aquis nolasii*, *rosar.* *lactuc.* *burs.* *pastor.* *portulaci*, &c. but the more effectual and powerfull is made of the decoction or juices of the green herbs of *solanum*, *lactuc.* *polygon.* *semperviv.* *cicut.* *hyoscyam.* &c. or the same herbs bruised, are proper, apply'd in form of a cataplasma; or the juices with Barley meal mixt to the consistence of a pultis without fire; to which may be
added,

added, *Bolus, Sanguis dracon. &c.* or thus,
 ʒ. Ung. populn. ʒi. mucag. sem. Citon. Psyllij.
 an. ʒiii. suc. portulac. ʒss. ol. violar. rosar. an.
 ʒi. Flor. nymphaeae, rosar. an. ʒi. Ceræ q. s.
 F. Ung. ent. or this. ʒ. ol. myrutin. cidon. a ʒi.
Bol. Armen. sang. dracon. pulv. gallar. a. ʒi. A-
ceti cochlear. i. f. Liniment.

Fomentations are made of *Oxycrate*, or the a-
 foresaid juices with vinegar, and adding some
 meal is made a *Pultis*. Or thus, ʒ. *Rad. a-*
cetof. cichor. a. ʒiii. Fol. violar. semperviv. por-
tul. lactuceae, lenticul. aquatic. acetof. cichor. and
 in a great inflammation, *Solani, Hyosciami. a.*
M. i. flor. Nymphaeae, rosar. papav. rub. a. P. I. F.
decoctio pro fotu; in inflammations. By these ex-
 amples the young Artift, if he be ingenious,
 may frame others, *ad infinitum*, if he see cause.
 In the shops you have *Ung. Adstringens, &c.*

Emplastic medicines are nighest a kin to *Re-*
 pellers which, by their tenacious quality, close
 the *Pores* and *Meatus*, and thicken the humors:
 some of them are of a viscus substance; some
 merely of a terrene, without morsure; as
Lythargyrus; their nature is the same with
Adstringents.

Next we are to treat of *Anodynes*; now
 the property of these is to lemfify or stupe-
 fy the body, or any part, the cause of the
 disease remaining. The *Lenifiers* are of a
 temperate

temperate quality and agreeable to our Native heat; of a thin substance; and are proper for hot or cold distempers; but in an hot one they must be somewhat refrigerating. Narcotics are only to be used in cruelty of pain; they do much damage if the pain proceeds from thick humors; but are more convenient for hot humors. After the Artift hath used them, to repair the damage done by them, he is to use hot Medicaments: wherefore they are bad in weak bodies and parts, and if humors be malignant; lest being imprison'd they bring danger. This is an Anodyne *Fotus*, ʒi. *Rad. Alb. Lilior. a. ʒii. Fol. Malv. Parietar. Violar. Brancæ Ursin, am. i. Flor. chamemeli; meliloti; sambuci; a. P. i. sem. lini, fenugrec. a. ʒss. F. Decoctio pro Fotu; strein it; and with the materials being bruised, and adding farina sem. lini, hordei, a. ʒi ss. Axungia porci, butyri recentis, a. ʒi ol. Amydal. dulc. ʒii. F. Cataplasma. Or ʒi. Medull. panis cum lacte coct. ʒi. Vitel. Ovor. Num. iii. ol. Rosat. ʒi. croc. ʒi. F. Cataplasma. Or ʒi. Mucilag. sem. Alb. Lini, Fœnug. a. ʒss. ol. lilior. Amygdal. dule. & sepi. Axung. Anseris, a. ʒss. ceræ parum. F. Liniment. These are for cold pains. For hot pains make aniniment of album. ovi & ol. Violaceo, and in height of pain Hyoscyam. and Opium. ʒi. Fol. Hyoscyam. Solan. Malvæ. a. M. i. Flor. Papaveris, P. ii. sem. Lini, Malv, a. ʒiii. coque*

f. A. pro fotu. To the residue bruis'd, add
Micæ panis albi, in *Lactē cocto* ℥ii. ol. *Nymph.*
Ung. Rosat. a. ℥ii. *F. Cataplasma.*

Emollients are next, Now they are not
 whatsoever things take away any hardness;
 but only that which was caus'd by dryness:
 And these must be of an hot and humid Na-
 ture, in the first and second degree. What
 distempers are hard through repletion, re-
 quire *evacuantia* to cure them; but those hard
 from congelation require *Calefacientia*. Re-
 laxating Medicaments are convenient for
 distended distempers; and mollifying for
 hard ones: But those which are both hard
 and distended they require both sorts. They
 are of the same Nature with *Anodynes*, but
 you must add *Origanum*, *Anethum*, *Calamentb*,
 &c: as, ʒ. *Rad. Lilior. Ebuli, Ireos, a.* ℥ii.
Ficus, No. x. Fol. Malv. chamemel. Aneth. Pu-
legi, a. M.ii. F. decoctum pro Fotu. To the Resi-
 due bruis'd add, *Farin. sem. Lini, serug. a.* ℥i.
 ol. *Aneth. Irin. a.* ℥ss. *F. cataplasma.*

Attenuating Medicaments are of a nigh kin
 to *Emollients*, they heat, and incide, there-
 fore they are to be of a thin substance; some
 more, some less; those are called *Diaphoretics*:
 They are not to exceed the third degree of
 heat, lest they burn and harden. After fo-
 menting with the aforesaid emollient decocti-
 on

on presently anoint the part with some attenuating oil as before, or *Ung. Agrippæ*, or *Argon*; then apply the *Pulvis*, aforeſaid. Or ʒ. *Ol. Coſtin. Irin. comp. a. ʒii. Pingued. Galline. antiq. Butyr. ſalf. a. ʒi. Aq. Vitæ parum, F. Liniment. Aq. vitæ*, or Brandy alone have often reſolved cold Tumors.

Medicamenta Attrahentia are a nigh relation to your *Attenuantia*, and they are of an exceeding hot nature, as, *Sinapis, Fimur Columbinus*, &c. and thoſe that being hot in the fourth degree, cauſe bliſters and redneſs, are called *Veficatoria, Dropaces, Sinapiſmi*; they powerfully diſſolve and colliquate; they are proper in Dropſies, Sciaticais, great pains and often Vomittings; but they hurt being apply'd to parts wanting fleſh, Children, and tender women; ſuperficiary diſeaſes, and cold ones without matter, *Aetius*: to which *Calefacientia* are ſufficient in ulcerated and hot diſeaſes. Yet they may be proper in the declining of the diſeaſe. Secondly, If the humor be ſo highly fix'd that it cannot otherwiſe be diſcuſſed; as in a ſalt diſtillation *Galen* applyed them to the head. Thirdly, If there be a venenate quality; as in a carbuncle, malignant Ulcer, biting, or venenat puncture. Fourthly, when venenate humors are to be averted from the Noble parts.

Dropax

A *Dropax* is of excellent use in *Atrophia*, and extenuation of a part; for it heats and humects, and attracts blood; for aliment is not distributed because 'tis transmitted, but because it is attracted: Therefore cold and dry parts do not well attract; whence they require the help of heat. But here you are to understand that that extenuation of a part which proceeds from a defect of the Stomach or Liver, evilly concocting, cannot be removed by a *Dropax*. You are to remove your Plaster before it be cold, and it is often to be repeated, while the part looks red: It carries away the reliques of diseases: A simple *Dropax* is called *Picatio*, being only pitch melted in oil. But in hard bodies *Galbanum* and *Sagapenum* are to be used. If a more compound be required then the Artist may add, *Piper*, *Pyrethrum*, *Sulphur Vivum*, *Sal. Stercus columbin*, *Bitumen*. It ought not to exceed the third degree of heat, because it's end is only to rubify the part. The skin is first to be rub'd, or fomented; when it hath produced a redness then remove your Plaster, lest what was attracted be resolved. It may be repeated every other day as occasion requires. If the part will be colored, neither by friction, nor fomenting, nor by a *Dropax*; it is a desperate case.

A *Sinapism* is a cataplasim made of Mustard seed, and Figs, steep'd in Brandy, and bruised together. The milder hath one part of *Sinapis*, and two of Figs; the meaner is of equal weight: the stronger hath two parts of Mustard seed and one of Figs. 'Tis to be used as a *Dropax*; first rubbing the part &c. after it hath produc'd a redness anoint the part with *ol. rosar.* &c. 'tis proper in daily pains of the head, brest, joints; the Epilepsy, Hemicranie. Palsy, Distillations, Sciatica, Gout, short Breath and want of Appetite, says *Aetius*. Have regard to the parts to be applyed to, as in *Dropax*. For a more compound one. ʒi. *Empl. de Mucilaginis* or such like, ʒii. *Sem. Sinapi*, *Siaphisagr. Stercor. Columbini*, a. ʒss. or ʒvi. *pul. caryophil.* ʒii. *cum. ol. Irino* F. *Empl.* For the head make them in form of a T.

Vesicationes are of the same use with the former, and are made of *Empl. Epispasticum*.

The next we are to treat of are *Medicamenta Maturantia*, and they are convenient where the humor is imprisoned, and by reason of it's thickness, cannot be resolv'd or set at liberty they must be of an hot and humid, or emplastic quality; lest any matter should be dissolved; they are proper in the State or

Encrease

Encrease of a Tumor; but less proper in the encrease: they are made of the aforesaid Anodyns and Emollients; to which may be added *Cepas, Oxylapath. Tussilag. Oxalis* roasted in the Cinders and bruised with Adeps, is excellent: Also *Ficus cum butyro, oleo* and farina tritici. In the shops you have *Ung. Basilic. Agrippa, Empl. Paracels. de Mucilag. Diachylon cum Gummi, &c.* If you cannot release your prisoner by these means; then you are to apply an actual, or potential Cauestry, and to use your incision knife. The Artist must open it, in the declining part according to the wrinkles of the skin; shun veins, arteries, &c. not evacuate all at once.

The Tumor being open'd, the Artist is then to cure the Ulcer, and to dry it up; for an Ulcer, *quatenus* an Ulcer, requires to be dried up: But by what means and Medicaments this shall be effected, *hic labor, hoc opus*; well then the Artist must perform this by deterging, farcotic or epoulotic Medicaments. Now the deterging Medicaments which perform this office, are to be most frequently of a bitter, hot Nature, in the first or second degree: or temperate; somewhat cold and dry, and of a middle substance; and these are to be either of a gentle and middle quality, which carry away the grosser

fer and thicker sort of *Sordes*; or elce of a more strong penetrating faculty, which have power to eat away a *callus* and corrupt Flesh; as in malignant Ulcers and *Fistula's*. In the shops you have *Ung. Egyptiac. Apostol. &c.* If your Ulcer be hollow you must dissolve your unguents in Smith-forge, or Alum water; or white wine, or brandy, according as the Nature of the Ulcer is, and Syringe it: if *Fistulated*, you may boil or infuse Tobacco in the aforesaid vehicles; some use infusion of Arsenic or Vitriol: and some *Aq. Fortis* alone.

The Ulcer being absterg'd requires Medicines that have power to beget flesh to replenish withall, call'd *Sarcotics*: Now the material cause of flesh being the blood; and the efficient heat; your *Sarcotics*, you must understand, do but only remove impediments which hinder regeneration of flesh: Therefore your *Sarcotics* must be of a deterging and exsiccatting quality, without acrimony; or great heat, least they absume the blood. But because there are but very few Simples which can perform this alone; therefore compounds are made use of rather: and they must be divers according to the Nature of the body and part affected; they must be of a dryer quality for dry bodies and parts; but in humid ones, as children and women, they must be moister

moister and milder. Then the Artist likewise to note that if his Sarcotics be weaker than is requisite they cause the Ulcer to become fordid; and if they be too strong they will certainly exasperate it: Which many not understanding have apply'd stronger and stronger; which prov'd to deterge too much, to the detriment of their Patient and practise, procuring thereby an eating Ulcer, or *Nomodes*.

And here in the use of Sarcotics the Artist is to consider four things. First, seeing that the generation of flesh, as I said before, proceeds from the alteration of the blood; he is therefore, in an especial manner to see that the body be in good temper; and if not to procure good blood by altering and evacuating remedies, *viz.* good dyet, phlebotomy, purgation, &c. so in the use of his medicines, the *Sanies* and *Sordes* is to be dried, but moderately; for if you go violently to work, you will absume the matter from whence should proceed your flesh; so *Farina Hordei* & *Fabarum* exsiccate without heat; and Thus moderately. But *Farina Hordei* & *Iridis* are more valid: But your *Aristoloch.* and *Panax* are stronger than those. Then you must remember never to use adstringents before you have well deterg'd, lest they detain

the excrements. Secondly, The Artift is to have an eye to the Nature of the part affected ; for his Medicine deterging must be one degree dryer than the part : hot parts require hotter ; dry dryer detergers ; that fit flesh may be generated : Wherefore in moist parts, *Thus* dries and begets flesh ; but in dry parts it humects and suppurates : Then if your Sarcotic be weaker than is requisite, you will perceive more plenty of matter to be generated ; and the flesh will be soft and flaccid : But if it be stronger than needs ; then the lips of the Ulcer will be red, inflamed dry, callous, with mordication. Thirdly, The Artift is to regard the *Connexa*. For a part being hotter or colder than it ought to be by Nature, is to be reduced to it's Natural temper ; the air, pain, inflammation and other *connexa*, are also to be regarded. Fourthly, The Artift is to regard the contrariety of Indications he shall meet with : as for example ; if the patient be of a moist temper, and the part affected the contrary ; accordingly there is indicated to the Artift a desiccative medicament in the second or third degree ; for the dryer ought to be moderate : So also ought the age, region, time of the year, constitution of the Air, &c. to be considered, as I said before.

Now

Now if through the neglect, or too long use of Sarcotics, and Epoulotics or Cicatrizing Medicaments being omitted, there shall happen an *Hypersarcosis*, or Superfluous, Spungy flesh, which is a *Solution of continuity complicated with magnitude augmented*; you must take it away with vehement dryers, in the fourth degree; not that they are to be so in their own Nature; but in respect of the part affected; whence, to some bodies epoulotics prove cathartics: and they ought also to be sharp and deterging: Such are all kinds of Ink, *Alum. Ung. Ægyptiac. &c.*

Now the Artist having removed all accidents and filled the Ulcer with good flesh, he hath no more to do but to cicatrize it; that is dry it and skin it up: Which because Nature cannot perform, or regenerate another skin, by reason of it's hardness; she therefore substitutes a certain callous substance, very like the Natural skin in lieu thereof. So that your cicatrizers must be of a drying, stiptic quality; that they may absume all moisture; then they must be also of an adstringing Nature that they may contract, without manifest heat and biting; for those Medicaments with desiccate, with morsure, are convenient only for hard, rustic, robustic, bodies, as *Alum, as ustum, &c.* and are of a near

64 *A Supplement to Brugis's*

Nature to Catheretics ; which are only proper for an *Hyperfarcosis*. I said they must be of a drying, styptic quality, without mordication ; such as are your Sarcotics in the first degree ; and your Glutinaters in the second ; and your cicatricers in the third degree do also dry ; which is to be understood concerning the part affected, for to Women and Children, &c. and small wounds, milder Cicatricers will suffice ; which in other harder bodies would be only Sarcotic: *ergo* they must be drying and styptic, as *Gallæ* &c. the others as *Alumen*, *Vitriolum*. &c. perform this part by accident, as being of an hot, igneous Nature, and colliquate the flesh ; so ought to be first burnt and wash'd indeed before the Artist use them ; and then but in a small quantity : And here the Artist is to take notice that he is to use his Cicatricers before the Wound or Ulcer be altogether equal ; because Nature always generates flesh ; and so his Cicatrice will be deformed ; the most effectual Cicatricers that I know of are these following. *Diacalciteos* dissolved in the deepest red Wine, and mollified with *ol. myrtillor. calx lota*, and brought into an unguent with *ol. rosaceum*. *Pulvis plumbi ust.* and *lori*, is excellent to cicatrize malignant and Cancrous Ulcers. 4. *Plumbi, Tutie, aris,*
aluminis

aluminis, *ustorum* & *lotorum*, a. ℥ss . *Sang. Dracon.* ℥i . F. *Pulvis*. Or make them into an *Unguent* in a Mortar, with *ol. rosar.* & *pauco aceto.* Or ℥ . *Cortic. mali granat. Thuris*, a. ℥iii . *Gallar. Aristoloch.* a. ℥ii . *testarum vor. calcinat.* ℥ss . *croc. martis.* ℥i . *Borac.* ℥i . *pumic. usti* ℥ii . *Coruss. Lytharg. Tutie*, a. ℥i . *Aloes*, ℥ii . F. *pulv. s. A.* or with hony and astringent wine; or with *ol. myrtin.* & *colophonias*, F. *Unguent.* adding *Scoriam Ferri, cum Antimonio* & *calcitide*; which are also good of themselves being dissolved in stiptic wine. Or lastly, ℥ . *Calc. viv. Alumin. Cortic. granator. an.* ℥vi . *thuris, gallar. a.* ℥iv . *cerae, olei*, a. q. s. F. *Unguent. s. A.* This is for fordid and putrid Ulcers; having first apply'd *Caro salsa porcina*.

Lastly, *Caustics* and *Escarotic* medicaments burn and make crusts, absorb hard and callous things in the Flesh; hot in the fourth degree; of a thick and terrene substance; but according to the Natures of Bodies, and staying upon the part, the same Medicine may be called a vesicatory, cathartic or escarotic: For those which are *vesicantia* in hard Bodies; are escharotics in soft: and those which are Cathartics in soft bodies, are epoulotics in harder: see then of what weight the discerning between

78 *A Supplement to Brugis's*

between body and body is to the young Artist in his practise. Your Cautics are made of *Lapis infernalis* , Sope and quicklime, to the consistence of an Unguent spread upon lint and applyed between two Emplasters, as broad as you will have the Eschar to be.

FINIS.

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